FEDERAL COMMUNICATIONS COMMISSION

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PUBLIC SAFETY NATIONAL COORDINATION COMMITTEE

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GENERAL MEMBERSHIP MEETING

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Friday,

November 16, 2001

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The meeting was held at 9:30 a.m. in Salon A and B of the Brooklyn Marriott Hotel, 333 Adams Street, Brooklyn, NY, Michael Wilhelm, Chair, presiding.

STEERING COMMITTEE MEMBERS PRESENT:

MICHAEL WILHELM - CHAIR
MARILYN WARD
STEVEN PROCTOR
HARLIN MCEWEN
TIMOTHY LOEWENSTEIN

ALSO PRESENT:

ROBERT LEE
WAYNE LELAND
BERTRAM WEINTRAUB
J. JOY ALFORD
TOM SUGRUE

ALSO PRESENT: (Cont.)

ARI WAX
STEPHEN GREGORY
HENRY JACKSON
PETER MEADE
ROGER PLATT
KATHLEEN HAM-O'BRIEN
ROBERT GURSS
DAVID EIERMAN
ROBERT SCHLIEMAN
BRYAN TRAMONT

A-G-E-N-D-A

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P-R-O-C-E-E-D-I-N-G-S

(9:32 a.m.)

CHAIR WILHELM: My name is Michael Wilhelm, I'm the designated federal officer for the National Coordination Committee. Normally this meeting would be chaired by Ms. Kathleen Wallman, but I found, late yesterday, that it was impossible for her to come from Washington to New York for the meeting, and she asked me to stand in for her.

This Committee was not scheduled to meet again until January of next year. But the events of September 11th changed all of that. This meeting came about because many of the NCC's members told Kathy that we had much to learn from public safety personnel who had first-hand knowledge of the interoperability issues that arose during the Pentagon and the World Trade Center attacks.

Those members said, and Kathy agreed, that the lessons from these disasters are best learned when the embers have only recently cooled, when recovery efforts are still underway, and while the experience of rescue and recovery communications is still vivid

in the minds of those who participated in them.

I think this is going to be a full and interesting meeting. The meeting agendas are available in the back of the room if you don't already have one.

I estimate that we will break for lunch at about 12:45 for 45 minutes, and that will follow our panel on band clearing. If things go according to schedule we will adjourn about three o'clock this afternoon.

It is my privilege now to introduce the Chief of the FCC's wireless telecommunications Bureau, my boss, Tom Sugrue. Tom is no stranger to the NCC, he has been a featured at several NCC meetings, and he has taken a keen interest in public safety communications, and the recommendations that the NCC made to the FCC for rules that will govern the new 700 MHz spectrum.

Tom, welcome.

MR. SUGRUE: Good morning, and thank you, Michael. And thanks to the NCC for inviting me to Brooklyn this morning. This is actually a bit of a

homecoming for me. I was born and raised in New York City. In fact I was born in Brooklyn, not very far from here.

And when I was five my family decided to move to the country and made it as far as Flushing in Queens, where they live to this day. I think my mom will be in the house in Flushing 50 years this spring. And when I leave here I'm going there to pick her up and bring her back to stay with us for Thanksgiving.

But I was also reminiscing about how things have changed. I saw my first baseball game at Ebbets field, a game between the Dodgers and the Giants. That is the Brooklyn Dodgers and the New York Giants, for the youngsters in the crowd. There were actually teams like that in New York at the time.

But New York is a very special place to me, and to my family. My wife and I have made our home, and the home for our children in the Washington, D.C. area, but we are both New Yorkers, and I'm just delighted to be here this morning.

Well, enough with the reminiscing. I'm actually here with others representing the Federal

Communications Commission, and on behalf of the FCC, and especially on behalf of the people in the wireless telecommunications bureau, I want to commend -- there are so many of you in the audience -- for the extraordinary work that was done to maintain public safety communications during the World Trade Center and Pentagon attacks, and in the days following.

And watching the television coverage of the airplane crash out at Kennedy and Rockaway this past Monday, I realize particularly in New York the public safety communications systems were, again, being put to the test.

And these events only underscore the need for reliable and effective public safety communications in times of emergencies, when such communications are most needed.

I know New York, the damage at the site of the World Trade Center, had a severe impact on the city's communications infrastructure. And rescue personnel looked to the public safety communications community to restore service.

Through ingenuity and hard work

communications technicians and managers were able to overcome a number of problems to provide a communications system for public safety personnel during this unprecedented event.

And the city and a country owe a large debt of gratitude to these communications professionals. But, as many of you know, the system was under extraordinary pressure in these hours immediately following the attack.

The channels that were available were terribly crowded, interoperability problems arose when responders using incompatible radio equipment, operating in different bands, were unable to talk to one another.

And there are lessons to be learned from this experience, not only by those who participated in it, by those of us in the FCC, those in Congress, and others participating in Government and communications public policy.

And I look forward to hearing the reports this morning on interoperabilty issues in the wake of the World Trade Center and Pentagon attacks, and to

learn what lessons we can take for radio frequency public policy and regulatory initiatives.

Now, let me turn to an issue that is near and dear to my heart, I know it is near and dear to the heart of many in this audience, which is the 700 MHz radio band.

I believe, like many, that the 700 MHz band represents a tremendous opportunity for the possible community. A reliable 700 MHz network infrastructure with specific spectrum, expressly identified and dedicated for interoperabilty channels, would be an invaluable step to cope with the communications demands at time of disasters like those we recently experienced.

The NCC, this group, was formed almost three years ago to assist in the development of operational and technical standards in the 700 MHz spectrum band.

The regulatory groundwork for establishing new 700 MHz systems is, I believe, now in place. The FCC has carefully analyzed the technical and operational recommendations of the NCC, and has

incorporated most of those into our rules.

Interoperabilty will be assured because we adopted the NCC's recommendation, for narrow band voice and data standards for the interoperabilty channels.

The first 700 MHz state licenses are going to be issued early next year. And other licenses will follow as the regional planning committee submit their plans and obtain approval.

One element is still missing, though. We still do not have a wide band data standard recommendation from the NCC. I understand you are working on that, and will be discussing that today, and I encourage you to complete those efforts as soon as possible.

Now, one of the most constant concerns I hear expressed by the public safety community, is that television stations currently occupy the 700 MHz public safety band should vacate that band by 2006, or sooner, if possible.

That is a legitimate concern, and one that has our attention. The FCC is working hard to make

700 MHz spectrum available in areas where it is currently constrained by television allocations.

For example, we are attempting to encourage broadcasters to vacate that band voluntarily, and are allowing them to accept payment for doing so, a not uncontroversial step.

However, the ultimate resolution of the 700 MHz band clearing is a matter not completely within the Commission's control. Congress set a 2006 date by statute, and that statute allows television stations to continue to operate in the 700 MHz band public safety and commercial allocations, beyond 2006, under certain circumstances, namely if there is not an 85 percent penetration of digital televisions by that time.

Many in the public safety community, and in the broadcast industry, and in the commercial wireless industry, believe that if the statute remains in its present form, there will be very few stations that actually vacate the 700 MHz band by 2006.

The establishment of a date certain for that transition, for at least the stations in 60 to

69, is a matter about which congressional review might be helpful.

And I should add, until fairly recently, the focus of the 700 MHz band has typically been between the incumbent broadcast licensees, and the new potential commercial service providers, and about who would pay whom, and how much, to get access to this very valuable spectrum.

Sort of, as one Commissioner called it, a battle between the wealthy and the very rich. Not much equity there.

But I think there is an enhanced awareness, certainly at the FCC, and in Congress, and in the debates in Washington about public safety's interest in this band, and that 40 percent of that band is allocated for public safety.

As I said, the licensing process already established standards, already established -- and public safety is doing an increasingly good job of making its views known before Congress, and before the Commission, and on this important issue, and I encourage you to keep those efforts up, and redouble

them, if possible.

On the international side, both Canada and Mexico are now considering harmonizing their 700 MHz allotments with those of the U.S., and eventually clearing the 700 MHz band of television stations.

But, presently, both countries have DTV allotments along the border that would limit the use of 700 MHz public safety spectrum in certain border states. The FCC continues to work on this issue with both Canada and Mexico. The international process often tends to work slower than we would like.

There are regular meetings, but they take place over the course of months and years. But I think progress is being made, I think there is an enhanced sensitivity on that front.

And, again, I encourage you to remain active on the international issues as well.

Of course our best efforts to clear television stations from 700 MHz public safety spectrum are going to be of little value unless equipment that operates in that band is available.

With the recent issuance of the technical

rules by the FCC manufacturers have the information, now, necessary to start the design and manufacturing process. And by the time we issue the first 700 MHz licenses, early next year, I hope the manufacturers will have geared up so that we will soon have equipment available from a number of sources.

An effective hardened and redundant public safety communications infrastructure is an essential component of our way of life. This comes at no small cost. But anything less could leave us insufficiently prepared in these times, when reliable communications are most needed.

Funding of public safety communication systems is something that is not within the FCC's mandate. I almost wish it were, I wish we could take some of that auction money and put it to a good use in the public safety field.

But I think it is a critical element, too, another piece of the puzzle, because all of your work here is futile without the funds to implement it. And, again, your representatives have been very effective in making your voices heard at the FCC.

And this is another issue, and I'm giving you sort of a lobbying agenda here, advocacy agenda, at least. But this is another issue in which I suggest that in light of events of September 11th you also make your voices heard in the offices of your congressman, and with your state legislators.

Lawmakers should be aware that as we focus on the resources for homeland security, the security of the country, that resources for public safety communications are a critical component of that.

I tell you, last month I testified at a Hearing in Congress. And when I had an opportunity to put a plug in for more funds for the FCC I avoided that, and put a plug in for more funds for public safety communication systems, because I think -- we see that both on the RF side in the radio systems, and the E911 side, I think it is something that is critical.

Well, I want to close by suggesting that many of you had more than one reason to come to New York at a time when travel is still being avoided by many americans.

When I decided to accept your invitation to come here and speak I was reminded what Churchill said when he spoke to the english people in World War II. In paraphrasing the poet W. E. Henley, Churchill said that even in the darkest days of war we are still masters of our fate, we are still captains of our souls.

I think you all believe that, and I know I do. Once more I'm convinced that in coming here you have paid tribute to your fallen public safety comrades who lost their lives while heroically responding to the attacks on the World Trade Center. And I think for inviting me, and I wish you all success in your efforts here. Thank you.

CHAIR WILHELM: Our next speaker is Deputy Commissioner Ari Wax of the New York City police department office of technology and systems development.

That office is responsible for the advanced technology equipment to support the various missions of the police department. Deputy Commissioner Wax has spent the last 15 years working

in the New York City criminal justice system.

He worked as an administrator, as a project manager, and as a prosecutor. Before assuming his current position as Deputy Commissioner for technological development, he served for five years as an assistant commissioner of the New York City department of corrections.

Before his appointment as assistant commissioner he served at the office of the deputy Mayor for public safety. For approximately five years, before working at the Mayor's office, he served in the Kings County District Attorney's office.

He served there as a supervising assistant district attorney. He was responsible for training first year assistant district attorneys, and to monitor the handling of their cases.

Deputy Commissioner Wax is admitted to the bar in New York and Illinois. He received his law degree from the George Washington University National Law Center in 1985. And he received his undergraduate degree from the University of Illinois in 1982.

This morning he is going to share with us

some of the significant communications issues that arose in the NYPD's response to the World Trade Center attack.

Commissioner Wax, please come to the podium.

COMMISSIONER WAX: Thank you, Michael. Good morning. On behalf of the New York City Police Department I want to thank you very much for giving us the opportunity to come speak to you this morning, at this meeting of the Public Safety National Coordination Committee.

This committee's meeting comes at a very challenging time, as we all know. The response, the courage, and the sacrifice that was displayed by public safety personnel on September 11th is absolutely without parallel.

The importance of reliable communications to sustain that effort cannot be overstated. The challenge is to maintain that level of readiness in the face of uncertainty.

Although a focus of my presentation will be on the communications aspect of the World Trade

Center disaster, I would like to take a moment to paint a picture of heroism for you.

A high ranking official of the New York City Police Department who responded to the scene on September 11th, right after the first plane hit, described to me an image that is forever imbedded in his mind.

And that image is an image of shoes, dozens of shoes, women's shoes on the ground, leading from the World Trade Center away from the site. What that image paints is a picture of people running for their lives to the point they ran right out of their shoes in their haste to get away from that terror.

Yet despite the fact that everyone was running away, police officers, firefighters, and other rescue workers, ran into that building to save additional people.

Now, we did lose, tragically, 5,000 innocent people during the horrific act on September 11th. But what also happened on that day is because of the bravery and the courage of those public safety rescue officials, the police officers the

firefighters, and the rescue workers, some 20,000 to 25,000 people were saved.

That is beyond belief. And it cannot be overstated at all. And that image is forever etched in his mind, the image of the shoes. There is no more heroic act than that performed by those rescue workers on that day. We, the city of New York, and the nation, will be forever in their debt.

It should be noted that a reliable communications system played a critical role in the ability of the rescue workers to communicate with each other, and to orchestrate the rescue.

I would now like to address some salient points about that communications infrastructure. Now, the fact of the matter is we did not expect a tragedy of such magnitude as took place on September 11th, but we were prepared to handle it.

We didn't anticipate such a horrific act, but we were ready to respond. How? Well, there are several reasons. First, disaster planning. The communications division of the New York City Police Department has disaster plans that are continuously

revised and drilled.

Regular testing of established procedures assures continuity of communications. We also utilized table top drills to help prepare for the unexpected. After these drills supervisors are critiqued so that they can learn from their mistakes.

They are also encouraged to be creative in the development of solutions to unusual problems. These drills help assure that staff members are aware of all their options and available resources.

We also have deployment planning. This is constantly revised and includes scheduling for staff for additional support in times of great volume, and implementation of transportation plans in the event of disruptions of mass transportation, and the like.

We also are blessed with top notch managers who are encouraged to try new methods to continuously improve performance, and they do. And they are able to do that because we have a dedicated, well-trained staff that helped us stay the course.

But probably the most significant reason why we are able to maintain our communications

throughout the disaster and the days beyond, because of redundancy, diversity, and more redundancy.

It is important to recognize that redundancy and diversity are not the same thing. You could have two cables performing mirror functions going from point A to point B, but if at any point along that route they follow the same path you may have redundancy, you don't have diversity.

And if that point is cut, you are finished. That is why it is absolutely critical to have both redundancy and diversity. It is critical to eliminate any single point of failure.

And in our planning we made every single effort to do just that. Our primary objective is to help maintain the public safety and officer safety by keeping those lines of communication open.

This objective was complicated on September 11th because of a domino effect that occurred. When a terrorist struck the twin towers, there is no doubt in my mind that they were completely oblivious to the impact that that act of destruction would have on the communications infrastructure of the

city of New York.

But an impact it did. The destruction caused the loss of major antennas on top of the World Trade Center, as well as major cables underneath the World Trade Center complex. The domino effect that I referred to took place when the north tower fell.

And the fire of that north tower, and the collapse of that north tower caused extensive damage and fire in seven World Trade Center across the street. That building, in turn, eventually collapsed.

Unfortunately at seven World Trade Center was immediately adjacent to a key Verizon central office. And the collapse onto that central office caused significant damage to that central office, causing a massive loss of critical telephone and data circuits, including those feeding E-911.

Without careful planning and disaster recovery, procedures that were in place, the E-911 operations could have been greatly affected by the disaster, but they were not.

Instead, the call taking and dispatch operations were only minimally affected, which was a

significant achievement under such catastrophic conditions.

The police department set into motion disaster recovery plans that had been established for years, and repeatedly tested, and rehearsed, although rarely implemented.

Working 24 hours a day with Verizon, and service providers such as Motorola, and IXP, who is our systems integrator at E-911, NYPD experienced the indisputable value of a multi-layer redundancy, diversity, and testing principles, as was applied to development and establishment implementation of our 911 infrastructure.

The bottom line is we did lose one key transmitter from top of the World Trade Center, and we lost the West Street Central Office. Telephone service, both landline and wireless, was lost throughout the area.

Yet we never lost 911 service, and we never lost our radio communications. Why? Again, because of diversity and redundancy. And in the case of radio, our ability to exclusively control a

substantial portion of our infrastructure.

This is an important point, because some circles have been encouraging that public safety organizations utilize commercial wireless services to provide their public safety communications.

If that had been the case in New York City on September 11th, we would not have been able to communicate at all. Our rescue workers would have been operating deaf and blind. And God knows how many more people would have perished as a result of that.

Although commercial wireless systems were non-existent, or at best sporadic, our radio network never missed a beat.

The NYPD's reaction to the perilous condition of the communications infrastructure was aided by warnings from Verizon about the tenuous condition of its central office.

As a result of that warning, and our knowledge that we had a lot of critical communications components very near ground zero, we were able to anticipate and to improvise. Through some ingenious engineering wizardry by our crack technical staff, our

electronics section, we were actually able to re-route some signals sufficiently to avoid the loss of any radio communications.

The point I made about the contact with Verizon is actually an essential point. As public safety officials we must know our vendors and our service providers. It is imperative to keep the channels of communications open at all times.

We need to test everything, and we need to ask a lot of questions. Vendors, indeed can be, and on September 11th absolutely were, tremendous allies. However, public safety agencies must remember that we are the customer and the boss.

Vendors can advise us, they can help row a boat, and in troubled waters they can even help bail that boat out. But public safety officials must steer that course, and must set the policy.

Constant command and control is essential. It should be known that in the aftermath of the tragedy many vendors, such as Motorola, Verizon, AT&T, Voicestream, Nextel, Cingular, Datamax, Time-Warner, IXP, and many others, rendered significant assistance

in the reestablishment of critical communications.

The private sector can be a critical partner in times of crisis. It is important to maintain these channels of communication, not just with the vendors, but also between communication staff and operational units of a police department.

Operational needs must be ascertained and creative solutions must be delivered to solve the problems. Communications personnel also need to be familiar with the key infrastructure, and need to work with operational units to assure the continued security of key facilities.

A list of priority sites should be maintained and revised, as appropriate. Now, as I mentioned earlier, we lost the central office that federal 911, but we didn't lose 911.

And the reason why we didn't lose 911 is because we had a second central office that fed 911. Immediately upon the second impact, when there was no doubt in anybody's mind that this was not an accident, we did two things.

Number one, we secured the entire

perimeter of our 911 facility, and number two, we reached out to our patrol borough to make sure that they ensured the integrity of the facility of the central office that was still surviving. Very important things to do in that kind of situation.

The human element cannot be overlooked, either. Picture in your minds this situation. We are sitting here in the Brooklyn Marriott hotel. I can honestly tell you that there are several times, in recent years, where I've walked from here to the area around the World Trade Center, it is that close.

Our 911 operation is right here in downtown Brooklyn, less than two miles from ground zero, where you can see what is going on over the World Trade Center. Despite being that close, despite knowing that government facilities throughout the city were being evacuated, our 911 operators stayed at their posts, and they did their job, and they did it well.

And despite having to deal with mind-numbing, harrowing panic calls, and calls for distress from police officers over the radio, our personnel

maintained their composure, and did a tremendous job under the most trying of circumstances.

To put this in perspective, the New York City Police Department averages 30,000 911 calls per day, or eleven and a half million per year. On September 11th, during the first ten minutes after the first plane struck, we had 3,000 calls to handle.

And by the end of the day there were 55,000 calls that came in. None of these calls were missed.

During stressful times, and times of extreme duress, outlets for release must also be provided. We attempted to address this through management reassurance, on-site counseling, and the facilitation of group discussions.

Union leadership stepped up to help provide counseling on the day of the attack. This is another example of cooperation. We handled the disaster through cooperation between the private and public sectors, between communications and operational staff, between civilian and uniform members of the service, between labor and management, and not the

least, with interagency cooperation, local, state, and federal.

I will leave it to the Mayor's office of emergency management and Chief Peter Meade of Nassau County, to discuss the various critical aspects of the interagency cooperation.

Suffice it to say that we made every effort to establish command, control, communication, coordination, and cooperation to get us through the crisis.

As you can well imagine, the New York City Police Department's radio system was put to the test during the events of September 11th. We have 70 precincts, and more than 50 specialized commands that we serve.

We maintain the largest public radio system, public safety radio system in the entire continent. It is a complex network that utilizes 126 transmitters, more than 1,400 receivers, at more than 350 locations.

The system is designed to provide overlapping coverage to mitigate the loss of multiple

receivers, and still maintain an acceptable level of coverage. Again, redundancy.

The radio system serves approximately 24,000 portable radios, 2,000 mobile radios, and 2,200 mobile data terminals. We utilize 15 city-wide channels, 8 patrol borough channels, and six interoperabilty channels.

Radio channels were, as you can imagine, allocated to responding teams, and became crowded with desperate calls from trapped and responding officers. The radio channels were also used to provide interagency communications to coordinate the response of the many law enforcement agencies from around the metropolitan area, who responded to the scene.

Unfortunately, however, it did become apparent, during the situation, that the protocols for interoperabilty have not been adequately promulgated throughout the region.

As a result of that we are working closely with the New York Metropolitan Advisory Council, NYMAC, to rectify this situation, and we expect those protocols to be issued very soon.

Despite the failure of all forms of communication in the hours following the World Trade Center disaster, the NYPD's radio system remained operational at all times.

This was a direct result of thorough planning and implementation that incorporated many levels of diversity and redundancy into the system, as well as dedicated engineering and repair performance of the department's skilled technical staff.

However, not all issues relating to the maintenance of the integrity of our radio system are within the control of the New York City Police Department. The September 11th attacks highlight the critical need for exclusive public safety communication systems that ensure secure quality transmission and reception.

These elements were a critical component of New York City Police Department response and readiness on September 11th and beyond. The era of heightened security we have now entered only serves to emphasize that even more.

Now, the NCC should be commended for the

diligent and highly competent work which will lead to very tangible benefits for public safety communications. The NCC's role of addressing and advising the FCC on the operational and technical parameters for use in the 700 MHz public safety band that has been committed by the FCC is a vital one.

That the NCC and its subcommittee have accomplished so much is a tribute to both its leadership, and the dedication of its members to public safety. Your work will truly make a difference, and we thank you for it.

The FCC, too, should be commended. Beyond the allocation of the 700 MHz spectrum to public safety, and sponsoring the committee's work, the FCC's actions on September 11th have been essential.

The public safety and private wireless division has assisted a number of New York City metropolitan area public safety agencies in obtaining special temporary authority to conduct wireless communications.

Additionally the FCC enforcement bureau has consistently responded expeditiously to

interference challenges that agencies in New York City area encounter with their radio system.

As I said, the 700 MHz spectrum commitment is important. However, when it will actually be available is open to considerable conjecture. The imperative to note is that 700 MHz is not available to respond to current demands.

And the current reality is that we are at war, and that is not about to change any time soon. No one seriously suggest the transition to digital television will be completed even by 2006, the time period originally set.

As a matter of fact, in the New York area, the date is probably going to be delayed even further because of the critical loss of infrastructure atop of the World Trade Center by the local television stations.

Television broadcasters are not going to be in a position to move out a 700 MHz, specifically channel 63, 64, 68, and 69, prior to 2006. The delay is real, and the potential harm substantial.

The New York Metropolitan area remains

extremely congested, and a range of agencies face severe limitations in carrying out our fundamental law enforcement and public safety communications.

Additionally there are a number of circumstances that infringe directly on effective public safety use of the currently allocated spectrum. Public agencies in the New York Metropolitan area face serious challenges to effective utilization of existing resources.

Since the 1970s New York City Police Department has utilized channels 14 and 15, essentially 470 to 482 MHz range for our radio communications. We filled those up very quickly.

By 1995 the FCC made a substantial and critical commitment to public safety in the New York City area, when it authorized the use of TV channel 16 with 482 to 488 MHz for public safety communications.

The Commission determined that not only was there an urgent and immediate need for additional spectrum in the area, but that granting the authorization be accomplished without affecting existing TV operations, or digital TV.

As a result of this gracious authorization to use channel 16 public safety agencies have expended millions upon millions of dollars to enhance communications systems that have served to improve police response time, and provide more information to the police officers who respond to the scene.

As a result the public is better and more speedily served, and the responding officer arrives at the scene with very useful information, which helps him or her do his or her job a lot better.

The NYPD has constructed and implemented imbedded systems and interoperabilty channels on channel 16 that are vital to providing logistical and command support during daily operations and during times of emergency.

The viability of the allocated public safety frequency spectrum is critical to ensure the public safety communications systems operate as intended. There could be no dispute that public safety is paramount to commercial interests.

However, this critical use for public safety of channel 16 is threatened, particularly by

low power television broadcasters. These intrusions threaten not only the substantial investments made by local Government in the infrastructure, but recklessly endanger both the public, and the public safety officers on whom the public depends.

There is a clear and compelling need to establish the primacy of channel 16 for public safety communications in the New York City Metropolitan area. And this issue has an impact that goes beyond the New York City Police Department.

As I mentioned earlier, channel 16 is a frequency used for, amongst other things, critical interoperabilty channels. Similarly being faced with a critical need to improve its communication system, the Nassau County police department has submitted an application to the Commission to operate a public safety communications system on the 500 to 506 MHz band, which has been allocated for, but not used by television channel 19 of the New York area.

Nassau county's need to improve its communication capability is also real, and it is also severe. Without the relief that they seek the

circumstances will degenerate further in Nassau county.

This frequency is already in use by public safety agencies in northern New Jersey. A proposal for use of channel 19 by a low power television station in Ammytivlle, New York, would disrupt that critical usage.

I therefore encourage the Commission to grant Nassau County's application as expeditiously as possible.

In short, there are parochial interests that threaten the public safety communications in the 470 to 512 MHz band. A principal band for public safety communications in the New York area.

This interests assert precedence over state, county and local investment made in the public safety communications infrastructure, and the critical communications that that infrastructure affords.

There should be no misunderstanding where these interests will lead. Public safety communications, links for several jurisdictions throughout the New York Metropolitan area will be

jeopardized, or severed.

If this threat to public safety communications in the 470 to 512 MHz range is not eliminated, the detriment will be tangible, and substantial.

Positive resolution of these issues, on the other hand, will permit the NYPD, the fire department, Nassau County, and other agencies, to be in the same UHF radio range allowing for the expanded use of channel 16 interoperabilty channels.

Positive action will also ensure continuity of the region's wireless communications, and will make them more effective. In these troubled times it is fair to say that there is no issue on FCC's agenda that carries so much potential impact on public safety and national security.

Before I close I want to acknowledge the presence of Cpt. Kenneth Weinberg, the commanding officer of the electronics section, who is hiding somewhere in the back. There he is.

The electronics section, as I mentioned earlier, is responsible for the entire police

department radio operation. Through Cpt. Weinberg's leadership, vision, commitment and dedication, the NYPD radio shop has continued to develop and maintain a world class robust, and reliable, radio network.

Should there be time later, Cpt. Weinberg will be available to answer any specific questions that you might have.

On behalf of NYPD I want to thank you for all you've already done, and for what no doubt will continue to do to enhance public safety. Thank you all, God bless you, and God bless America.

CHAIR WILHELM: One part of the NCC's charter is to make recommendations on reliable and redundant interoperabilty networks. And I think we have heard from Commissioner Wax this morning, the importance of that charge to the NCC, and his comments on redundancy and diversity should be taken to heart by this committee.

Our next speaker is Assistant Commissioner Steven M. Gregory from the fire department of New York. Commissioner Gregory started with the New York fire department forty years ago as a fire alarm

dispatcher.

And today he runs one of the largest bureaus in the department with over 600 employees, the bureau of communications. He has gained a reputation for a hands-off management style with a demonstrated expertise in strategic planning and problem solving.

Through his leadership and foresight the fire department of New York met the challenges of the World Trade Center disaster in a manner that he is going to describe to us today.

Commissioner Gregory.

COMMISSIONER GREGORY: Good morning. It is very nice to be here.

Most often fire or emergency operations are viewed by those who are on the scene, remotely, through the lens of a camera. For communications professionals audio is a different but very powerful tool that we use for observation and situation assessment.

Audio transmissions provide us with a broader perspective of an operation, and it forces us to use our minds to draw a picture of what we hear.

I'm an operations person, and I'm here to discuss operational issues, I'm not here to talk about the technical end of the job. I'm the end result user of what the technical people come up with.

Like many others I operated at the World Trade Center on September 11th. And like many others I survived the collapse. There is no need to go into war stories, I don't intend to tell war stories today.

That day taught us all too many hard real lessons. One being our dependency on audio transmissions. The value of our handy talkies was never so apparent as when our ability to transmit was temporarily lost after the first collapse.

I can't even begin to describe to you the feeling of being in complete, utter, total blackness, without the ability to communicate with anyone. When the first tower came down we all ran.

The silence that came upon us made us wonder if there was anybody left, if we were dead, if we were waiting to go to wherever we go when we die. I'll be playing some radio transmissions for you today, so that maybe you can understand the

frustrations of those communications personnel who were involved in the operation.

And since I can't control it from here my good friend Ted will be my audio person. These are actual radio transmissions, so we may have to adjust the volume a little bit. Some are loud, some are low, our recording devices were a little problematic that day.

Please play the tape now. These are the initial calls from our units reporting.

(Whereupon, audio portion was played.)

COMMISSIONER GREGORY: Chief Ganci survived the collapse of the first tower. He didn't survive the second tower.

Within a very short period of time calls started coming in from inside the towers themselves with the compounding situation that fire dispatch personnel were up against.

Calls of people trapped throughout the building, obtaining as much information as possible, dispatchers relayed what they knew to the on-scene commanders, either responding or on the scene. Play

the tape.

(Whereupon, audio portion was played.)

COMMISSIONER GREGORY: Now imagine, if you would, what was going on in the minds of our incident commanders on the scene, with all of these reports coming over, people trapped on all of these floors, in all of the buildings.

They had to determine the location of the command post that had to be set up. This location changed several times because of fluid situations, debris falling from the building, people jumping from the building.

We had to keep moving the command post from location to location, which further complicated our operation. We told our units to report to a certain location, they couldn't do that because we had to move the command post, we had to get back to them and tell them again.

Our radio traffic was just unbelievable. Multiple operations posts and staging areas had to be set up. Again, this was a very fluid operation, and had to be changed because of the ongoing situations.

Our field communications operation had to be set up. We set up in one location, we had to move. Ultimately our field communications unit was totally destroyed in the collapse, it was buried.

The other problem we had was the determination of what radio channels our handy talkie on fire ground frequencies were going to be used. We are limited in the number of channels we have.

Tactical command and rescue channels had to be set up, they had to be given to the various units on the scene, taking into consideration the number of units on the scene, that was a very difficult task.

The rapid succession of alarms depleted our resources. The Manhattan supervising dispatcher had to reach out to the out-boroughs for response and coverage.

Units relocating to Manhattan from the other burroughs switched to the Manhattan frequency, and they were utilized as soon as they became available. Most of them never reached the fire house.

They came from outer burroughs, they came

into Manhattan. They were either dispatched to the scene, dispatched to other alarms that were going on at the time.

Radio operation had increased to a point where the Manhattan dispatcher never went off the air. Units responding were given specific instructions about response and locations to report to.

There were over 225 units operating on a Manhattan radio frequency as opposed to the 90 that normally operated on that frequency. So you can imagine the problems that our radio dispatcher was having at that time.

Availability of units city-wide dropped to the lowest ever recorded. Telephone alarms from the Trade Center, as well as from the outside were overwhelming our dispatcher operation.

The telephone turrets never went dim, the calls continued to come in. The calls ranged from calm to hysterical, dramatic calls, people wanting instruction and direction, what should they do, should they leave, should they stay?

Calls came in on cell phones, they came in

from offices, they came in from stairwells, they came in from people hiding in closets. It was just overwhelming our operation.

These are not the type of calls that you could handle quickly. Each call had to be handled, each call had to be handled a certain way. There was a lot of patience required. And every call that we received had to be relayed to the incident commander at the scene to let them know where we had people trapped, where the people were, how many people were there.

This is SOP in a high rise operation, it is SOP in any fire operation. We were telling the people to stay where they were, which is SOP for our operation. The people were staying where they were and following our orders.

People calling wanted and demanded that our dispatchers stay on the line with them, as that was their only lifeline to the outside world. Dispatchers in the Manhattan CO were taxed at their limit.

The normal 24 hour period in Manhattan

consists of about 300 calls. On that day we did close to 3,000 calls. The severity of the situation escalated beyond belief with the receipt of this transmission.

(Whereupon, audio portion was played.)

COMMISSIONER GREGORY: And then we all know what comes next. Some of these recording are quite graphic, it is our units reporting the collapse of the first tower. There is one in here of a civilian who is actually, has actually taken refuge in one of our fire apparatus as the building was coming down.

(Whereupon, audio portion was played.)

COMMISSIONER GREGORY: At this point in time it was thought that the tubes of the Brooklyn battery tunnel had collapsed. Engine 228 was in the tunnel, he didn't know whether he was stuck in a collapse, he didn't know where he was, because the dust from the tower 2 coming down just filled up the tunnel.

There will be two conversations on here that you will hear me, car 9, one conversation I'm

breathing very heavily, so don't get frightened, it is not the beginning of an obscene radio transmission, but I was trying to breathe. But we will play the tapes and you can hear it.

(Whereupon, audio portion is played.)

COMMISSIONER GREGORY: The fire ground radio system was stretched beyond its limits at the height of the incident and for a sustained period of time we were operating well over 1,000 handy talkies on three radio channels.

You might not want to hear this, probably not the right place to say it, but interoperabilty, although a serious issue, was not my prime concern at that time, the operability within our own system was.

I wish I had the fire ground recordings but, unfortunately, they were destroyed with our field communications unit when tower 1 came down.

Within the first hour we transmitted 17 alarms, bringing 225 units to the scene. Approximately 55 percent of our on-duty firefighters were working or operating at the Trade Center.

All off duty firefighters were recalled

from home. Many fire and EMS units from outside New York City also responded. Our inability to communicate with them posed a serious safety issue, specially on the fire ground site.

Our incident commanders didn't know who they were, they didn't even know they were there. They didn't know where they were, and they had no idea what they were doing.

So that is a very critical issue for us, when we get people coming in from outside. They come in, they do their thing, we don't know where they are, who they are, or what they are doing, and they can get seriously hurt.

Some of the lessons learned, all the drills in the world couldn't have prepared us for this. It was the largest rescue mission ever. We have to review and update all of our disaster plans.

Although as Commissioner Wax indicated, everything worked, and everything worked superbly during the operation. We had very little to no radio problems, even though we had that number of units operating on our frequencies. We never really lost

anything, everything held up really well.

Interoperabilty, it is a critical issue for us. We are presently addressing it in our changeover from VHF to UHF. This will give us the ability to communicate within our own operation between NYPD and EMS, which is part of the fire department.

Interoperabilty also presents numerous operational challenges. There are still many questions to be answered. How quickly can we implement it, when do we implement it.

Operations plans have to be designed between agencies so that we can implement it. What equipment is required, if any. Who gives the order to utilize the interoperabilty channels, and at what level should that order be given.

We, in public safety sector are obligated to provide service and safety to the public, and to our members. The bottom line is each one of us has a job to do. And the more we can interact with each other, the more effective we will be.

But we are not afforded the luxury of

testing technology by implementing operational changes in this business. When technology is implemented, it better work. We need the right tools to do the job, and we need to understand how and when those tools can and should be used.

After the World Trade Center explosion in '93 we critiqued our operation and systems. What did we do wrong, how can we make it better, how can we change our systems to handle such a challenge.

Nothing could have prepared us for this, the situation, but we are obligated to learn from it. My opening remarks I said it is nice to be here today. I have a very short video clip that was taken by a British film crew, unbeknownst to us, at the command post we were operating.

I was operating at a staging command post just opposite number 2 World Trade Center with Chief Jerry Barbera, and we were waiting for units to come in. Chief Barbera was the incident commander of tower number 2.

I think after viewing the video you will understand what I mean by it is nice to be here today.

(Whereupon, a video tape was played.)

COMMISSIONER GREGORY: That is what it looked like. Then it got real black, real quiet. Thank you very much for allowing me to speak today. I appreciate the opportunity, thank you.

CHAIR WILHELM: Commissioner Gregory, I don't think any of us in this room fully appreciated the enormity of the effort that the fire department of New York went to in this disaster. Thank you very much for sharing it with us.

The agenda that you saw this morning was drawn up before American Airlines crashed in Queens. The agenda shows that the -- Mr. Richard Scheirer from to the Office of Emergency Management would be addressing us this morning.

More important issues have called him away, but the office of emergency management has been gracious enough to provide the presentation from Mr. Henry Jackson.

Mr. Jackson is the Deputy Director of the Office of Emergency Management. He is in charge of technology and administration. And he was the person

responsible for reestablishing OEM's emergency operations center and communications abilities after the communications center was destroyed when the World Trade Center collapsed.

Mr. Jackson.

MR. JACKSON: Thank you. My Commissioner sends his regards, he is sorry that he couldn't make it here today, but he is with the Mayor, the latest events of the latest airplane crash.

As has been said I'm Henry Jackson, I'm the Deputy Director for Administration at the Mayor's office of emergency management. And among the things that I'm in charge of is technology.

My understanding, from the material that I got, is that the folks in this room are interested in the answers to a few questions, specifically the communication demands that required interoperabilty at the World Trade Center event, how they were met, were not met, during that event.

What lessons can be learned, and what special wide band data transmission needs there were, specifically video, and still picture transmission.

And I'm going to get to these answers by relaying our own experiences at 9-11, and how our communication needs operated on that day, and beyond.

Our perspective is derived from our mission statement, and our operating principles, and for some of you who don't know I will tell you a little bit about OEM.

The Mayor's Office of Emergency Management was actually in NYPD prior to 1996. In 1996 the Mayor, recognizing the need for stronger interaganecy communication and coordination, established our office by executive order, and actually on the last election, by voter referendum, we've now been established as an agency.

OEM's charge is to coordinate interagency response in emergency events, on-scene. We work with the fire department, the police department, and other city agencies, to coordinate the provision of resources required to respond effectively to an event.

In addition to that we have a planning function that plans for emergencies, weather events, bioterrorism events, snowstorms, running the gamut

from mundane to catastrophic.

Some of the emergencies that we have been responsible for in our short time are snow and heat emergencies, mass transportation labor strikes, the year 2000 contingency planning and preparedness initiatives taken on by the city, TWA flight 800, and of course the most recent events of the World Trade Center, as well as flight 587, that crashed in the Rockways.

Our staff is comprised of firefighters, police officers, DUP workers, sanitation people, members of the department of information, technology, and telecommunications.

So we are comprised of individuals from various agencies, with various specialties, and that helps us in doing the sort of coordination that we've been charged with doing.

Emergencies in New York City really do run the gamut. New York City has the best fire department in the world, the best police department in the world, and we like to think the best emergency management agency in the world.

On a daily basis the city responds to thousands and thousands of EMS calls, fire calls, police calls. Problems limited to fires and crimes, and medical emergencies, are handled admirably by those agencies.

For instance, incidents where there are multiple agencies required to respond, interagency coordination and communication are critical. And OEM is the coordinating organization for those types of incidents.

The events of September 11th, you know, revealed many things about response to events like these. At first notification agencies were primarily concerned with immediate response. What we did at OEM, and I was sitting in my office when the first plane hit, is we started opening up our emergency operations center.

OEM is comprised of a number of units. We have first responders that go to the scene, we have planning staff who plan, we have a watch command that monitors all city frequency, fire, police, EMS, all the other agencies that have frequencies, marine band.

If anybody ever saw our emergency operations center you will see it was a technical marvel, and we really did monitor everything that was going on in the city.

Our watch commander started making notifications, our response people started to respond, our planners started to put together our emergency operations center, and we started to watch the TV, and we saw some plane had crashed into the World Trade Center, and we thought some yahoo just flew into the World Trade Center.

When the second plane hit it was obvious we were under attack. And our offices were at 7 World Trade Center. And our building immediately required us to evacuate.

So we evacuated our building and started operations in the lobby at 7 World Trade Center, and continued to coordinate with the various command posts, NYPD, NYFD, EMS, and dispatched our command bus.

We have a command bus, much like many of the other law enforcement agencies, that has all the

communication capabilities built into it, to allow us to effectively run our operation from anywhere we need to be.

We dispersed that command bus, dispatched that command bus to Greenwich street, and started operating. I ran out of the building, I grabbed my radio, made sure the floor was clear. And, as I said, we started operating in the lobby.

When that first tower fell all our staff members were pretty much dispersed throughout the area. But our command bus was on-site, and we started a roll call immediately, and started to identify where our members were, and find out who wasn't accounted for.

Obviously there were major communication failures as a result of the collapse, you know, if you see an OEM guy on the streets, he has NEXTEL, Verizon, interactive pager, a radio. Redundancy is our middle name.

And most of these weren't working. But, fortunately, the 800 MHz radio band was working, and it was working well. So we were able to communicate

with our staff, and coordinate the resources that we needed to coordinate.

We had some additional problems. Now that we had evacuated our EOC, 7 World Trade Center eventually collapsed about 5 p.m. that day, we needed to find a place to bring together all the agencies that we typically do during an emergency.

And many of you know the chronology of the -- fire house, then we went to the police academy, and we started to operate there. Because of the enormity of the response to this thing that didn't work. And a few days into the event we started building a new EOC, which is at an undisclosed location on the west side.

But we were able to do that, obviously, with the help of a lot of people, police, fire, all the vendors, you know, just everybody was able to help us. And we put something together in about 32 hours, and we were up and operating.

And the point is that, you know, we had to reestablish our ability to coordinate all the efforts that needed to go on to respond to an event like this.

Interoperabilty for us is really a program of related technologies, it is not just one thing. As I say, we monitor every frequency, we dispatch, we speak on every frequency. We monitor communications, computer systems, dispatch terminals.

And so for us interoperabilty isn't just a radio, it is all the things that we do by pulling people in the same room, which is the way we've always operated. You can go over to the fire department and say we need this, or what do you need, and that sort of communication takes place face to face.

But we do have a number of capabilities to enhance interoperabilty. One of the things on the 800 MHz band is an alert radio network. It is the agency liaison emergency radio trunk. And this frequency has been designated to OEM for the coordination of multiple agencies.

And during emergencies responders have access to this subfleet, can switch over to the channel for information and coordination. The alert system afforded us the ability to do interagency communications on that day.

And it is not just limited to city agencies, but we've dispersed these radios out to surrounding counties, to the American Red Cross, to other agencies, hospitals that we work with, so that we have those communication capabilities.

We do daily roll calls on the alert channel to make sure that everybody is up and operating on that.

That is one of interoperable capabilities. In addition to that watch command, as I've mentioned, continually monitors the major city-wide frequencies, city-wide fire, police SOD, and can communicate with any city agency on those frequencies.

Cellular communications, as I've said, Verizon, AT&T, Omnipoint, you know, we had a stockpile of different cellular phones, most of those pretty useless on 9-11.

When we put together our EOC, again, we used command and control software program to manage inactivation, is what we call it. And what we use that for is delegating agency assignments, collecting resource requests, and managing those requests, not

only in the EOC, but outside of the EOC.

E-team is something that we've deployed relatively recently. It is basically a web browser front end, and can be accessed, really, from anywhere, with a dial-up connection, or whatever.

We started to deploy this, and again, this is a couple of days into the event, to all the command posts. And, in fact, because of the problems downtown with telephone communication and hard lines, we brought up the ricochet network out of bankruptcy court, because their infrastructure was still there, and revived that network, and used that, which was -- which is still the widest band available for wireless communications, and it is something we had been playing with a lot before the bankruptcy issue.

But the city decided to bring that up and use that. And, as I said, we deployed that to many of the command centers that were operating down at the World Trade Center, so that they were hooked into our command and control software. That is just another interoperable capability that currently exists.

Video conferencing before the collapse we were capable of doing via hardline. It is something we would love to get going at some point. We have not yet seen a wireless technology that really works. It would enhance our capability, certainly, to be able to pull people in from one PP and fire Headquarters, City Hall, into our EOC via video conferencing.

And so if there is a way to use the 700 MHz way to do that, we would certainly support that. Data transmission, we started getting that up, and we were able to tap into, once we reestablished our emergency operation center, getting agency data into our EOC via that network.

The events of September 11th witnessed many successes, as well as many shortfalls. And communications in New York City can be credited with saving multiple lives.

At OEM alone two of our members were saved by calls on the OEM alert channel. They were sending distress calls, we were able to find them, and pull them out of the rubble.

Personally I was trapped in a loading dock

with a number of my staff members, but I had my 800 MHz radio, and I had a fire captain next to me, and we were able to pull all these people out of the mess that we were in.

We got back to our bus and started to reestablish, as I say, the emergency operations center, out of the bus at first, then a firehouse, then the Police Academy, and finally in EOC.

Some of the problems that occurred, and some of the solutions that might be possible are, I will discuss briefly. Cellphones, obviously, even with the redundancies we had, cellphones were just overmaxed.

And some of the things we did quickly after that were to deploy COWs, cell site on wheels, to reestablish those communications. Those things need to be readily available. And with the vendors help we were able to get those out there. Nextel sites are down there now, and those were deployed very quickly after the event.

Government needs to utilize the priority telephone access system. Many of you are probably

familiar with GEX. Unfortunately most of our GEX cards were up in 7 World Trade Center, so they weren't available to us.

Interagency meetings were critical. And as the Mayor ran from place to place, he finally convened all his commissioners at the police academy. But video communications, and video conferencing from the field is a critical, critical component of interoperabilty. And if the 700 MHz channel can support that, that is something that we would deem critical.

During the recent wave of anthrax scares, we had an immediate need to contact all hospitals. And although we had a number of hospitals on our alert system, we didn't have everybody. And these things were coming from all over the place.

So special groups need to be identified, and provided with central communications capability that ties into the city's communication and restructure, so we can pull everybody in that we need to, when we want to.

Agencies obviously experience an immediate

need to establish communications for their employees. And with the help of many of the vendors, Motorola, Verizon, Nextel, we distributed, really, thousands and thousands of radios and phones to provide those communications.

And so the ability for the city and public safety agencies to maintain those stocks, and to maintain those relationships with vendors that allow that sort of thing to happen is critical.

Another example of the need for interoperable radios, if you tried driving around the city in the days, hours, weeks, after the event, there was a checkpoint about every 100 yards.

The checkpoints were manned by NYPD, the New York State Police, the New York State Courts, Sheriff's offices, multiple agencies operating roadblocks, but they couldn't communicate with each other.

If somebody had blown by some roadblock there was no way to get to the next roadblock and say somebody is coming. That is just another example of how interoperabilty might be critical to public safety

organizations.

As I've said, internet infrastructure was not available given everything that happened with the hard lines downtown. The ricochet system that we pulled up really was a critical component at the time, and allowed us to deploy our command and control software around the city.

In addition, you know, as I said before, E-team was a critical component. It is another piece of technology that we use to really establish interoperabilty between the agencies and the city.

GIS, if any of you have seen the operation up at the emergency operations center, GIS plays a critical role. We have produced thousands and thousands of maps, showing everything from pedestrian access, vehicle access, to infrared photos of the site that have been helping the fire department locate where the fire is still burning.

We have done flyovers, we have done just an incredible number of maps. And the high speed data capability would allow those maps to be transmitted downtown.

I mean, the way we've done it the past few times is print out the map, and run downtown, and get it to the folks who need it. High speed data capabilities are critical for this kind of operation.

In summary, we certainly believe there is a need for this type of interoperable network. We would add it as another tool. We would certainly, as all the other agencies, not rely on a single thing, but add it to our tool box of redundant tools to increase communications among public safety organizations.

In particular there is a real vacuum in the field of wireless data transmission. One that is temporarily filled by ricochet, but a thick pipe for secure data transmission has not been sufficiently developed.

We haven't seen it, and I've seen lots of demos, and I have not seen it successfully demonstrated. Of course, we will be watching the progress of this development, eagerly. And we offer our assistance in any way you feel appropriate or helpful.

And on behalf of my Commissioner I thank you all for your efforts to improve communications among public safety organizations. Thank you.

CHAIR WILHELM: Mr. Jackson, thank you very much. Your comments on the need for wide band data, and for video conferencing are particularly apropos to this meeting, because later on we will be hearing on the progress of the telecommunications industry's association in developing a wide band data standard.

And we will also be seeing a demonstration of wide band data on the 700 MHz Greenhouse Project in Pinelas County, Florida, in which, among other things, they have internet access from their police and fire vehicles.

I would now like to introduce Chief Peter Meade of the Nassau County fire department. He became involved in the mutual aid response to the World Trade Center attacks the moment the first plane hit the building.

He is a full time career fire service professional, he also teaches at the Nassau County

Fire Service Academy, and he is a member of the Great Neck Volunteer Fire Department.

He is here to talk to us, today, about interoperabilty issues that arose when the Nassau County fire service responded to the September 11th attacks.

Chief Meade, welcome.

CHIEF MEADE: Don't clap, I didn't do anything yet.

I would like to thank the Committee for the invitation to come to a part of Long Island I normally drive through going someplace else.

I want to offer my condolences to Commissioner Gregory and Commissioner Wax on the loss of the members of their respective departments who were murdered on September 11th.

In anticipation of coming here I recognized that I could have gone to any number of technical professionals to find out the ins and outs of this particular aspect of communications relative to the expansion of channels into the New York area.

And there are a lot of advocacy groups in

the public safety business who are very much involved in that. I belong to a couple of them. But I decided, instead, just to tell you what happened, and let you draw your own conclusions.

If you will move to the first slide, Bob, I would appreciate. Nassau County Long Island, 328 square miles, about 1.4 million people, adjacent to the New York City border at Queens County.

We share Long Island with Suffolk, Queens, and Brooklyn. 71 volunteer fire rescue departments, six independent volunteer ambulance companies, 9,000 volunteers.

Now, the number 9,000 is slightly down from our high of close to 10,500 a few years ago. 288 engine companies, 96 ladder companies, 57 heavy rescue companies, 34 ALS ambulances, 82 BLS ambulances, and in addition to that the county police department operates some 20 ALS ambulances with career staff.

So a glance will tell you that our coverage in Nassau County for emergency response is pretty good for 328 square miles. The three immutable truths of emergency management, what has happened can

happen. Anything that has happened someplace else in the world can happen in your backyard.

If you recall the Serin gas event in Japan, New York City's reaction was to hold an exercise to figure out what they would do in New York City. They probably were the only city in the nation to do that.

They understand truth number 2, that it was not raining when Noah built the ark. And despite Commissioner Gregory's indications otherwise, they were prepared for this. And the way you can tell they were prepared for this is look at the potential for death and serious injury on the day of those murders, and recognize the absolutely incredible, almost miraculous, job that was done by the New York City emergency services responders in the saving of lives, as opposed to the media's attention on the loss of lives.

They had built the ark well in advance of the rain. And, trust me, there are a lot of cities in the United States right now, very quietly, wielding hammers and boards, building their arks.

And the third, not necessarily so true in this case, but certainly true in the earlier attack on the World Trade Center in the '90s, if you don't manage the traffic, you don't get to manage anything else.

And in the communications business all of the communications in the world cannot overcome cars stopped behind cars, stopped behind trucks, it just doesn't happen.

Nassau County normally operates on low band, 4610, have been doing it since, well, since probably before I was born. We used to have one-way radio, then we evolved to two-way radio.

Single county-wide, 4610 and three battalion group channels, we have nine fire battalions in the county, and each group of three works on a single battalion group channel.

We utilize the county's 800 MHz system for administrative and disaster management use. It is an Ericksson system, it is about, I guess, ten years old now. Severely channel overloaded, and used by, as intended, multiple public safety agencies in the

county, the sheriffs, the emergency management folks, the fire department, but not on a regular fire ground basis.

And we make extensive use of high band and UHF for fireground operations, in particular our local level, not for mutual aid or coordinating. Our county-wide channel, on which we do member alerting, is also used for mutual aid.

We have the Nassau County fire and rescue services communications facility. It was started in 1972 when the county first went to a 911 centralized communications system. It provides incident command support, scene management, and communications in support of the volunteer fire and rescue service.

Now, in addition to our 9,000 volunteers we have two career companies, one in the village of Garden City, and one in the city of Long Beach. We employ 34 sworn personnel, all of whom, by county law, are volunteer fire fighters for at least five years, before they are eligible to take the open, competitive, civil service examinations for these positions.

We promote from within, and everyone in the facility, with the exception of myself, started out as a communications operator.

New York City mutual aid; Nassau County is sandwiched between New York City and Suffolk County, responds frequently in both directions. There are weekly mutual aid operations with Suffolk County departments that share our borders, and frequent mutual aid operations with Queens departments that share our borders, in particular along the Rockaways, where the plane went down the other day, and along the parkway that kind of divides Nassau and Suffolk Counties.

The operation, as described to you by Commissioner Gregory, is exactly how it works. The outer burroughs feed into Manhattan when anything big takes place in Manhattan. Then the outer burroughs need to be fed, since they've moved to Manhattan, on mutual aid.

And the mutual aid for Queens and Brooklyn, obviously, would come from Nassau and Suffolk, no bridges to cross, no tunnels to go

through, it is the ideal situation.

Then when you get to Staten Island, it is fairly obvious the feed would come from New Jersey, and the Bronx is fed by the City of Yonkers career department, and by the lower counties of Westchester, Orange, Rockland, and Putnam, if necessary.

So that you can see that geographically New York is actually ideally situated for the receipt of mutual aid. And, let me add, just coincidentally that in the wake of our disaster in 1990, when we had the Avianca airliner come down on Long Island's north shore, I always now joke that it created our single use international airport.

When that plane came down on the north shore of Nassau County we experienced unrestricted, unrestrained response from segments of the country that surprised even me, after all my years in the business.

We make it a point, in Nassau County, to attempt to prevent or minimize buffing, that is units leaving unassigned from Nassau County to respond to events elsewhere. So units that arrive on-site,

unassigned, generally wind up -- we've had firefighters and company officers, low level company officers, suspended and removed from office for responding out of their own district, unrequested.

So mutual aid was requested here on day one. At 10:29 a.m. Queens Burroughs command requested ten engine companies, ten truck companies, and five heavy rescue companies from Nassau County.

We were able to provide those, along with our field com unit, which responded automatically, and our field com unit is a large mobile communications center with the mutual aid channels for all of the jurisdictions into which we might respond.

The capability was tested when, later on, we received a request for whatever you can spare, from Manhattan command post. And that was to be staged out in Queens so that, in the event it was needed, it could be moved up into Queens.

This was not in anticipation of units moving to lower Manhattan. We understood, and we still understand, that that is the responsibility of the city fire department.

We staged 59 engines, 24 trucks, and 22 heavy rescue units at Belmont Race Track. You can see the obvious reason why Belmont Race Track was utilized. One, units can move into Queens along Hempstead Turnpike from Belmont Race Track without having to go under any parkway bridges.

The northern state, southern state parkway bridges, and the cross-island parkway bridges were all intentionally built low. They were intentionally built low by the developer, a guy named Robert Moses, after whom a whole bunch of stuff has been named.

And Robert Moses, essentially, didn't like city people. So he built the bridges low so that city people wouldn't come to Long Island to use his parks by bus. That was the reason why those bridges were built the way they are built.

They also don't let big fire apparatus through. Our field com unit, for example, is 12 foot high. It does not fit through a number of the bridges on the parkways, even on Long Island. It is interesting getting us to Jones Beach from anyplace on Long Island.

What about the communication capability? Well, Nassau fire and Queens communications have an automatic mutual aid communication system. In fact, we test it on a fairly regular basis. And it has been largely successfully utilized for those over-the-border normal day to day operations. If you can call anything normal in this business.

Our 800 MHz system is used by our fire and rescue service for disaster mutual aid. The county purchased, for each of the volunteer fire companies in the county a number of 800 MHz radios. And we have localized emergency operations center, we call them battalion EOCs.

Those localized emergency operations centers are also equipped with the 800 system, and can assign tactical channels for use by mutual aid responding units. So we are able to communicate with one another. That is not the problem when we leave the county on mutual aid.

When we leave the county on mutual aid the problem is talking to the people who are receiving mutual aid from us. Our field com unit can operate on

Queens, city-wide, and the walkie-talkie channels, for the borderline battalions along the Nassau-Queens border.

And that is the limitation of our field com unit. It was never intended for extended operations in mid-town Manhattan, nor was it intended to support operations in the Bronx. Although in my memory, Nassau County was called to the Bronx. The cable car in the Bronx zoo got stuck, and we had a 125 foot aerial tower that went over the Frog's Neck bridge, up to the Bronx, to help get folks out of that cable car.

Our battalion EOCs each have the 800 MHz capability. And, as I mentioned before, each acts locally and globally. And what I mean by that is when there is an event that takes place within a particular battalion, and we've had those, large scale building fires, structure fire, building collapse, things of that nature, the battalion EOC functions to move local equipment to the scene without having to burden the county communications facility, which is handling all of the other stuff that comes in at the same time.

For example, during the World Trade Center event, on the next morning, there was a tremendous concern on the part of the Nassau County residents over the air that was coming across the North Shore at Nassau County, it stunk. But it wasn't unhealthy.

And the calls were along the lines of, what is on fire? Now, this is the day after the World Trade Center, and there are people calling up on Long Island asking what is on fire? These are truly stupid people.

The relocations over the first day, we relocated in 28 Queens fire houses. With 48 engines and trucks, a combination of 48 engines and trucks. There is no inter-municipal communication capability fire department to fire department at the field level.

Once we go over the border, beyond those initial borderline companies, we don't have normal company to company mutual aid radio communication. It is not something that is viewed as desirable, it is something that is viewed as necessary.

As time goes on, and as the emergency service business is stretched more and more to

capacity, the need will be more and more present, and nowhere greater than here in the New York area.

Having served on the regional 800 planning committee for, well since I was about 4 years old, I have a pretty good handle on what the needs are. And watching the channels that we allocated be eaten up so quickly. Nassau County, I know, had a need for 20, got 16 and probably now would need 30.

We had 35 ambulances staged at Shea Stadium, the ideal staging point for the ambulances, Shea Stadium, huge open area, easy to get to from every place, and ambulances are not so tall that they don't make it under the parkway bridges.

They were later assigned to Manhattan, staged at the Chelsea pier on the west side, and South Street Seaport on the east side. Ideally run operation in support of the ambulance operations in Manhattan.

Fortunately, or unfortunately, there was no great need for a tremendous number of ambulances. The number of survivors, of injured survivors, was not off the scale. Certainly the number of dead is a

whole separate issue.

All of the Nassau County EMS units have, obviously, the ten channel EMS capability that is in the EMS radios. And with the disabling of quiet channel, can talk to any other ambulance that shares the channels, provided everybody understands that that is what is going to be done.

Operationally that is fine for the medical aspect of it. But, administratively, it is not fine, because you don't want to use those channels for your administrative work while EMS work is going on.

Other activity from Nassau County during the days following, we continued engine truck and rescue company activity at ground zero until Friday, September 14th. And those were specific units called by the city because of relevance that they had, aerial equipment, which I will discuss in a minute.

We have a tremendous number of pieces of aerial equipment over 100 feet, aerial platforms, over 100 feet in our county. Friday, September 14th, all volunteer units returned to their respective counties at the request of the New York City fire department.

On the 15th we received a request for 21 flood light units to respond for overnight duty in lower Manhattan. And that was to light key intersections. There was no lighting in lower Manhattan, and all of the debris beginning to be removed from the World Trade Center area out to the landfill in Staten Island, had to get there somehow.

And with no traffic control lights, you had to put people at the intersections. Well, people are fine, but people in the dark are not fine. So we received a request for flood light equipment, and we have plenty of it, so we sent flood light units in.

We did the same thing on Sunday the 16th, 22 units. They were convoyed into Manhattan, escorted by Nassau County police department and New York police department, and they were commanded by direct order, face to face. This is where I want you to go, this is what I want you to do, and this is how you get there.

And that is how those units were deployed. It is not the ideal way for the deployment of emergency response equipment.

We sent, ultimately, five aerial platforms

to lower Manhattan ground zero to respond for glass work. If you recall the early photos coming from the scene, many of the damaged buildings had huge panes of glass broken, and waiting to fall to the ground.

And I don't know if you've ever seen the thickness of some of this glass. It weighs tons, and certainly is deadly. And when it becomes anything other than stationary it is a huge problem.

So these units were called in to implode that glass into these buildings, so that it would minimize the chance of glass falling out.

Two heavy rescue units responded to the Staten Island landfill on that Monday, to assist on the opening the vehicles, the crushed vehicles that arrived out there, to search for the possibility of bodies inside those vehicles. And, again, 21 flood light units went to lower Manhattan.

In subsequent days, the Nassau and Suffolk fire departments made their quarters available for funeral details. It was for wakes of firefighters and police officers, EMS workers from the city, who lived in the counties.

Our volunteer firefighters filled the ranks of the uniformed members at firefighter funerals. Obviously, in the early days subsequent to the event, the emergency response force of New York City, which had been reduced by significant numbers, was still being utilized in a manner that demanded the presence of those responders in the burroughs.

We understand, in the emergency response business, how vital communications is to us. And by way of editorial comment, the New York City major networks were down for a while, a few days after the attack.

And, you know what? I didn't hear anybody saying we need channel 4 back, we need channel 2, I can't live without channel 7. But there are millions, literally millions of people in the New York Metropolitan area, who cannot live, and who will not live without an augmentation to the existing public safety communications channels.

So television be damned. Thank you very much.

CHAIR WILHELM: Thank you very much, Chief

Meade. I will bring that last remark to the attention of the Commission when I return.

(Laughter.)

CHAIR WILHELM: The World Trade Center was not the only disastrous event on September 11th. We had our own incident in Washington, D.C., and much of it was handled by our next speaker, Steve Souder, who is the administrator of Arlington County, Virginia, the emergency communications center there.

They coordinated all of public safety's response to the Pentagon attack. And he is here, today, to tell us how the county's interoperabilty plans were carried out during that response, and to tell us some of the interoperabilty lessons that were learned when public safety units from several jurisdictions converged on the scene of the Pentagon disaster.

Mr. Souder.

MR. SOUDER: Thank you, Michael. And I deeply appreciate the opportunity to be here today.

Before I begin I would like to just kind of share with you a couple of personal notes. First

of all, on behalf of the Arlington County police department, and Chief Ed Flynn, the Arlington County fire department, and Chief Ed Plauger, and my own agency, I would like to express my gratitude and appreciation, and deep condolences to our brothers and sisters in the fire department of New York, the NYPD, and the Port Authority police department, also.

There were 341 firefighters killed at ground zero. There were 23 NYPD police officers killed, and 37 Port Authority police officers lost their lives.

And let us pledge, here today, that whatever comes of the activities of the NCC, and to the degree that interoperabilty communications is enhanced in the future, let it be in honor of those that gave their lives on September 11th.

On another personal note, although Steve Gregory, a long-time friend of mine, just left on urgent business, I would just like to acknowledge his tremendous role on September 11th. And my other long-time friend in the back, who just left the podium, Pete Meade, it is just interesting how Steve's 40

years of experience, my 40 years of experience, and Pete's 35 years of experience, was about 115 years of experience have been at this podium in the last half hour. Pretty interesting, and I'm indebted to you Pete, and to you Steve, as well, and to deputy commissioner Wax, thank you also.

September 11th is a day that we will always remember. And, at least as it applies to Arlington, Virginia, and the Pentagon, I'm happy to say, in a way, that to the degree that the incident went well, it wasn't by accident.

It really was a product of an event that occurred 19 years and 8 months prior, and one quarter mile away from the Pentagon. Now, I'm sure most of you know where you were on September 11th. Does anybody remember where they may have been on January 13th, of 1982? Very well. In Harlem, it would be for you to remember that for sure.

Because on that day, a quarter mile away from the Pentagon attack on September 11th, an airplane took off from Washington National Airport, at that time, with ice on its wings, crashed into the

14th Street bridge, and ultimately did a flip-flop into the Potomac river.

And that event technically occurring in Washington, D.C., because the Virginia shoreline marks the beginning of the Commonwealth of Virginia, created a tremendous outpouring of public safety response to that horrific event.

And, unfortunately, it didn't go well. It was communications gridlock to the nth degree. Everybody that was there had good intentions, everybody that was there wanted to do good. But everybody that was there couldn't talk to each other.

You had every imaginable frequency, and every imaginable brand and type of radio, and every imaginable kind of agency converging on that snowy riverbank, on that January afternoon at 4:30.

It was a mess. But what it did was to reinforce what public safety had been saying, both to the Congress, and to the Commission, for at least the previous four years. That then, as now, public safety needed more spectrum on which to operate, and more common spectrum on which to operate.

And because of that event the agencies that responded and realized how confusing it was, pledged that they would do everything in their power, in the future, to see that it never happened again, even though at that time they didn't have the spectrum, not the technology to make that happen.

But, fortunately, just like perhaps the events of September 11th will give rise to a better day, the events of January 13th did give rise to a better day, because it was the catalyst event that allowed and caused the Congress and the Commission to act, and open up the first block of 800 MHz spectrum for public safety.

That was, coupled with the fact that prior to that, in the late 1970s, under the offices of APCO project 16, that the technology foundation was laid for a radio that would support trunking, and a spectrum yet to be allocated.

So what happened in the Washington area back in the early 1980s, was all of the agencies that couldn't talk to each other pledged that they would in the future. And they got together, and eventually as

800 MHz radios became available in the spectrum to support that, we pledged that we would plan a network of systems to be purchased independently, and over a period of time, but that would be designed in a way that whether it is the routine every day event that we might respond to, cross-border, or whether it is the next big one that came along, that we would be able to do a better job in communicating in the future, than we had in the past.

Initially there was one user, it happened to be my county, Arlington, joined quickly thereafter by another neighbor, Alexandria, Virginia. Followed then, later, by the National Airport, and then by Fairfax County, and then by the District of Columbia fire department.

And within the next year by Fauquier County, and Loudon County, and Prince William County, and Montgomery County, Maryland. And as each of these systems comes on line, we have pledged to swap and share by programming into our respective radios, the necessary frequencies of other jurisdictions.

So with that foundation on that fateful

morning two months ago, when preceded by the events that happened in this city, and in the shadow of this hotel, we were prepared.

So with that foundation, let me kind of tell you what really happened. We, in the communications center were, like many of you, watching TV, CNN news, and then suddenly it was broadcasting the events that took place at Tower 1.

And, like many of you, we didn't know, really, what gave rise to this big fire. There was a lot of speculation in those early moments. We knew it was big, and we knew it was bad, but we didn't know why that happened, what caused it.

And our thoughts, at that very moment, from a communications center perspective, and I do wish Steve was here, because he addressed that, was of course for the victims, and of course for the rescuers, and of course for the rescuers, and of course for the police officers.

But, most importantly, from a communicator standpoint, it immediately went to the 911 call takers, both on the police and the fire side, who we

realized, without even knowing it, but certainly reaffirmed by what Steve said, were receiving those heart wrenching calls from people that were crouched in the closet, were asking the call taker, should I jump or not jump from the 83rd floor, should I go upstairs, or should I go downstairs, should I walk, or should I take the elevator?

I've tried calling my wife, but she doesn't answer. Will you call her back and tell her that I love her? These are calls that communications centers are not expected to get, aren't trained to get, and yet we knew they were getting.

So our heart immediately went out for them. And then, just like the rest of you, when we saw the second plane strike, we knew that we had seen history in the making, the world changed before our eyes, and all of those kinds of things.

But there was a silence that came over the room, because we are physically located about a half mile from the Pentagon. And the silence was driven by the fact that I could see in every person's eyes that were working, the wonder if we might be next.

And I now know, since I've talked to everybody since that time, that everybody there was focusing on if we were a target, what target? And the target that we picked was the target that was most parallel to the twin towers.

Because those of you that know the Washington area know that in the Rosslyn area, right across the D\Key bridge from Georgetown, we have our own twin towers. They are certainly not 100 plus stories tall, they are only 40 stories tall, but they house the corporate headquarters for the USA Today newspaper.

And what I now know is we immediately thought, gee whiz, I wonder if they are going to try and strike those towers? We have a big TV in the com center, it faces the outer wall, and there is windows to the left and the right.

And as we were watching the events unfold, in this city, then suddenly, just like that, a huge cloud of smoke appeared through the window, followed instantaneously by a huge explosion, and then being only a half a mile away, by a slight rumble.

We didn't know what was struck, but we knew that we had been hit. The very first call that came across was by a patrol officer on patrol in the vicinity of the Pentagon, who very coolly and calmly said, an American Airlines jetliner just crashed into the Pentagon.

That was preceded by what you can well imagine was an onrush of wireless and wireline 911 call that instantaneously tied up that particular network. But it also gave rise to our initial response.

But like in every disaster, as critical as it was, and as tragic as it was, there was a lot of good luck involved. A couple of good things happened. One minute before, one minute before the planes struck the Pentagon, we had dispatched a high rise fire alarm box for the report of a fire in a building directly across the street from the twin towers of USA Today.

Like in any big city, a high rise assignment incorporates a lot of equipment. So we had all of the equipment that would normally be going to the Pentagon really driving right by the Pentagon, en

route to Rosslyn, when in fact the plane struck the Pentagon.

To our good fortune the fire in the high rise was put out by occupants, so they called back to say we have this fire out, at the very time the officer was saying American Airlines 77 just struck the Pentagon.

The value of that was we already had, en route and rolling, a full first alarm assignment. But we, nevertheless, did assign a whole fresh group of units to go to that, while diverting the units that were en route to the high rise.

So in effect, on the very first alarm, we had what was equal to a full second alarm assignment responding. Now, for those of you that may live, or know Arlington, it is a fairly small community, 27 square miles, 10 engine companies, two ladder companies, six EMS units, a couple of rescue squads, not a big fire department.

But that alarm instantaneously wiped us out. We were without resources instantaneously. But this is where interoperabilty and where planning comes

into play.

Because on a routine daily basis we cross borders between Alexandria and Fairfax County, and the District of Columbia, on the most routine of calls, auto fires, heart attacks, you name it, it doesn't matter to us, we always send whosever is closest.

So, consequently, our radios, because they are programmed with each other's channels, we simply switch to the channel of the host agency that has asked for our assistance, and dispatched us.

Recognizing that this fire initially at the Pentagon was one, because it was right in the heart of Arlington, did not require any kind of initial cross-border response.

But one of the things that my agency is blessed with, it is that one, empowered, and two, it is encouraged to think strategically, and act decisively, and they did, instantaneously.

Because within two minutes of the alarm being sounded for the Pentagon, and recognizing the impact that that alarm would have on drawing down our resources, we immediately called Washington, D.C.,

Fairfax County, the Airport's Authority, and Fairfax County.

All of which had 800 MHz radios programmed to our system, and told them, proactively, to begin to roll a full second alarm assignment to locations that we had identified, on the perimeter of the Pentagon, expecting, and anticipating that when the call came for help, and certainly it did, about 15 minutes later, rather than have those units have to come from the stations they would have been in, at that moment in time, and to face the gridlock which was building with every passing minute, as two interstates, five bridges, a railroad tunnel, a railroad bridge, and two parkways converged, you can well imagine the gridlock of roadways that they would have experienced, had they responded from where they were initially.

So 15 minutes later, by the time the request for their assistance was made, they were literally ringing the Pentagon, good fortune, good luck. A little bit of planning, but nevertheless, don't overlook the good luck dimension of that.

So immediately they were able to be drawn

in, immediately given the channel assignment to which their radios were fully capable of operating on, immediately began to communicate command and command with our incident commander, and allowed for an interoperabilty addressing of this major disaster in a very, very efficient fashion.

And so it went for the next 4 to 5 hours, as the fire raged, rescue efforts commenced, and so forth. Obviously there was a lot of need for intercommunications with our hospitals, as well as to the fleet of helicopters that provide Medivac transport for the Washington region.

But, again, the interoperabilty plan that we had begun to map up 19 years ago incorporated the inclusion of 800 MHz radios in the fleet of helicopters that were eventually called to the scene to medivac burn victims out of the Pentagon.

Each hospital is linked by a base station 800 MHz radio. So our incident commander, and certainly our communications center, could communicate with every hospital in the region that had the probability of receiving patients and victims.

So it went fairly well, really. But it had its foundations in technology, hardware, planning, and resourcefulness. And I don't want, for one second to confuse the dimensions of what we've seen here, in some of the video that Steve rendered, and what we have certainly seen on TV, over and over again, with the Pentagon.

That was an event that was just beyond words. The Pentagon was, obviously, a lot less, 188 lives, a lot of area around it to which we could operate from, and in. We had a lot going for us, we were lucky.

I don't know that our successes can necessarily be transported to another agency and say you do what we've done, and everything will go well, because they were quite different, quite honestly.

But if there is one message that I want to share is that we can all do a better job if we are willing to look at it creatively, to utilize the technology that we have, to utilize the spectrum that we have, and to just think creatively.

However, five hours into the incident,

things began to switch a little bit. For one, there were many appropriate agencies that ended up responding, basically federal agencies, many if not all of them, not on 800 MHz, never expecting to needing, or wanting to have to operate on our radio system.

So, indeed, we didn't maintain the initial interoperabilty that we enjoyed. We certainly maintained it with those that we needed to, mainly the first responders. But for the federal forces that responded we didn't have that interoperabilty. So that is a level of challenge that we've now got to go back to and begin to address.

I heard one of our earlier speakers speak, also, about the dimension of cell leader, and the impact of that. There is no denying that all of us in this room depend heavily upon cellular wireless technology every day. And we do so a lot in incident command, as well.

But instantaneously the cellular network was locked up in gridlock, as well. But, and I would offer this as another challenge to you, what we did,

we anticipated that, we anticipated it because we had experienced it before.

And virtually every major disaster that has occurred in the U.S. in the last 15 years, since we've enjoyed cellular technology, has resulted in a dependency on and a gridlock of the cellular network.

We have arrangements with our cellular providers that, based upon protocol, and telephone requests, they will begin to respond, the COWs, the cell on wheels, another dimension of that now, if you haven't heard it, called a COLT, the cell on a light truck.

But that, of and by itself, is not going to guarantee that you are going to be able to get into the system, because it is simply going to make the system bigger for more people that want to get into it. You really need a dedicated wireless telephone that is programmed to that temporary COW or COLT, for that to happen.

So the wireless providers came to the scene with a cache of phones, and they distributed them to those agencies that we needed to talk to, but

didn't have classic interoperabilty with, via 800 MHz.

And that allowed for that, rather temporary, over about an hour's period of time, shortcoming to be addressed. It is not the perfect solution, and it is one that wouldn't necessarily work in every situation, but certainly it was a major, major benefit that we had because of that.

But it didn't stop there. Because as the incident wore on, more and more agencies arrived from great distances. We had a USART team, an urban search and rescue team, from Albuquerque, New Mexico, Virginia Beach, Virginia, Fairfax county, Virginia, and from Montgomery County, Maryland.

And although they come with state of the art technology, they are not necessarily geared to an 800 MHz environment. So our vendor stepped forward. And, again, good luck came into play. We needed a lot of radios, and we weren't sitting in Chicago, with Chamberg, Illinois, being one of our neighbors.

But the good fortune was that Montgomery County, Maryland, is soon to go online, and all of their portable radios had already been delivered, and

were stockpiled in Montgomery County, which is about 15 minutes away from the Pentagon.

So when we realized we needed more portable radios, the vendor stepped up to the plate and provided us an unlimited number of radios for our use. And we now know, but didn't at that time, that they were also responding with 2,000 radios for the metropolitan New York area.

Admittedly those radios hadn't been programmed yet, so it took a bit of time to do that, and we had an issue of the batteries still having to be charged. But it is, nevertheless, something that has to be looked at, how are we going to address that in the future.

We have plans afoot, locally, to hopefully do a better job at that, not depend upon the good fortune of having radios in a warehouse, but to have a cache of radios available with their batteries, with chargers, and things like that, so that we can pool our resources and bring them into play, regardless of where the event may occur.

So there are some of the things that we

encountered. It was a difficult event. We, again, were very fortunate because the Pentagon is a building that was built in 1942. Many of us in this room weren't born in 1942.

It was a building that was built at the height of World War II, when there were fronts being fought by America on two fronts, the European theater, and the Pacific theater.

It was built on land which, at that time, was meadow land. It was built by refilling that land, and constructing the Pentagon that stands tall today, in 18 months time, with construction techniques that are primitive by what we think of today.

The walls are five foot thick solid concrete. The construction is a lot different than the World Trade Center towers. It was able to take that impact of that jet, full throttle, and full of fuel, and penetrate only one of the five perimeters that constitute the entire building.

If you look closely at some of the photographs, there are windows to the left and to the right of the blast area that aren't even cracked.

That was the kind of building that houses our Defense Department.

Another stroke of good luck, that wouldn't have been the case had they elected to do the twin towers in Rosslyn.

So we were lucky, but at the same time I think there is enough things that we did proactively, that allowed us to capitalize upon that luck, and to use those things that we do every day, that interoperabilty that we enjoy and utilize every single day, to bring to bear for the big one.

So let me thank you again for the opportunity to be here, and share some of these experiences. And I would just like to take a moment, if you don't mind, another personal moment in closing.

As I have watched TV over the last couple of months, and it hasn't been a whole lot. But every manner of person has been interviewed, and brought all kinds of horrific and courageous stories to the media's attention. And that is the way it should be, because there was a whole lot of heroism out there.

But one thing, at least in our area, and I

don't know whether that has been the case in the city or not, but there has been scant recognition given to the 911 personnel, and the police and fire dispatchers who served their inevitable role of behind the scenes, out of sight, and sometimes out of mind.

But they did a job that was just as courageous and heroic as anything that occurred at the scene. And I would only ask that you just give them a round of applause.

(Applause.)

MR. SOUDER: Steve, thank you.

CHAIR WILHELM: Steve, thank you. Steve, in his speech, made a number of references to good luck. And there may have been some. But I suspect that a lot of that good luck was generated by Steve Souder and his planning for disastrous events such as the Pentagon attack.

We are going to hear next from Roger Platt, who gives us a somewhat different perspective on interoperabilty. His perspective comes from a need for communication between building security personnel and public safety in the site of emergencies affecting

large office and residential buildings.

Among his other duties, Roger serves as the senior vicepresident of the Real Estate Roundtable. That is a coalition of managers of large buildings in Washington, D.C.

He holds an undergraduate degree from Harvard, and a law degree from the University of San Francisco. He will be joined today by John Gilbert, who is CEO of Rudin management incorporated, and the Chairman of the Real Estate Board of New York Task Force.

Roger.

MR. PLATT: Thank you very much, it is a great pleasure to be here, and I'm going to introduce John, but I'm going to also take a moment to just try to provide a little bit of an overview of how the real estate industry's stake is extraordinary in the work that you are doing, and in this whole issue of critical communications during crises and before.

I would also like to take a moment, as others have done, just a very quick personal moment, to say that the -- when we were just talking about the

Pentagon, my great-uncle was one of the associate architects of that building, and his wife, who is still alive, my son's godmother.

And I remember her telling us that the way they met was in Belgium. He came as one of the liberating Army forces, and she jumped onto the jeep, and they had quite a spin together.

But she said, you will never experience, you will never know the pride that we felt in seeing the men in uniform come into that city. And for me, as a New Yorker, when I came back from Washington, D.C. up here, when I saw the firefighters, and the policemen, I really had that sense of pride.

And I went up to many of them and thanked them, personally. And so in a small way this is an opportunity, too, just to share, from the real estate industry perspective, how can we help, and how can we have a better partnership with you, because it is certainly something that is very meaningful.

The Real Estate Roundtable has in its membership, leaders in the real estate industry across the entire country, including the major real estate

builders-owners here in New York, and people that own the World Trade Center and other big buildings here.

And their number one issue, when they have been getting together over the last few months, and talking, has been building security, and risk reduction. And among the issues that have been absolutely critical to them has been these communications issues during crises.

And New York is a place where, of course, some of the sharpest minds in the real estate industry are gathered, and they have put together a task force to address some of these communication issues, and to deal with mitigating some of the risks of failure to communicate properly.

As an industry, and as a roundtable in Washington, I have noticed a greater level of just sharing of best practices, of experiences. You know, this is a fiercely competitive industry, and these are individuals with tremendous achievements, and egos, and they are competitive to the point where on many technology matters they are very, they are not interested in sharing their trade secrets, or what

they've got that might be better, or might be a better tenant marketing strategy than the others, specially on technology matters.

And John Gilbert, who I'm going to introduce next, is one that many of our members would love to have on their team. He is the chief technology officer for Rudin Management here in New York, as well as their chief operating officer.

And he has an ability to address these technology issues, but he also has an ability to work closely in what I hope, as an industry, we will do, which is to develop more of a public-private partnership with the first responders, and with the police authorities.

He has that ability to work closely with government officials. And I think when you hear him talk a little bit about what he is trying to do as the chairman of the key taskforce here, you will have a sense of why the Rudin family is lucky to have him.

MR. GILBERT: Good morning. I think it is important for me to start, since I stand here very humbled in the presence of those of you who represent

the uniform services folks that performed so amazingly, and continue to perform amazingly, since 9-11.

Lou Rudin, who we lost six days after the attack, not as a result of the attack, at least directly, I think it certainly had an impact. He was battling cancer for about a year. But Lou was a genius in terms of bringing people together.

He was the guy who created operation innerwatch, operation innerlock, which is an interoperable system where our building managers, and our engineers, are able to access police band, and fire band radio signals, so that they can act as the eyes and ears for our uniform police and fire departments.

That program still exists today, it has been in existence for almost 25 years. And as Bill Rudin, Lou's son, takes over the Association for a Better New York, we will continue to expand that program throughout New York.

I happen to be getting out of a cab at about 8:45 Tuesday morning of the 11th of September.

We have a project meeting every Tuesday morning at our building at 32 6th Avenue, which is just a block south of Canal, literally 15 seconds or so before, or after the first plane hit.

And as I walked to the corner of Church and Canal, and looked up and saw this amazing fireball that was coming out of the north tower, I had this curious weird feeling, because there was a gentleman standing next to me with a movie camera.

And he literally had filmed, he was the only person who had caught the first plane on film going into that tower. I immediately was suspicious, and who the heck was this guy, and why was he here, and what was going on?

In front of me were fire department personnel that he was filming. And I found out later that this was french documentarist, if that is the right word, or a person who was doing a documentary, and had been following these firefighters around for about a year.

Sadly and tragically after the planes hit these gentlemen all went down to the World Trade

Center, and it is my understanding that none of them made it out.

But as I stood there and immediately watched, like everybody else, had to be an accident, the pilot had to have a stroke, or a heart attack that went into that plane, we were at least hoping that was the case.

But as things unfolded I immediately went to 32 Avenue Americas, went up to the 24th floor, watched the second plane hit, and then proceeded to watch the towers come down.

The first thing we did, or I did, when we got there, obviously, was to get into contact with our headquarters at 345 Park. We immediately got every one of our building managers on a conference call, to compare notes as to what was going on, and the folks at 1 Battery.

And I should say, we are the largest privately owned real estate, owners of real estate in lower Manhattan, we have six properties, totaling about four million square feet.

We immediately got everybody on the phone.

Obviously as the events unfolded we lost that landline. We then tried the cellphones were out. And the device that was most helpful to us, and most crucial to us in our ability to communicate, was this little device right here.

It is an e-mail pager. We were immediately able to create a list serve, and immediately able to send e-mails to all of our building managers who have these devices, so that instantaneously they were able to get text messages on a device hanging on their belt.

It was the most important piece of telecommunications devices that we had that day, as the landlines went out, and as the cellphones went out.

Obviously there are a lot of lessons to be learned here. I was asked to head both the taskforce on rebuilding the power system in lower Manhattan, as well as the telecommunications systems in lower Manhattan.

And the lessons that have learned have to be enacted. People have to realize that this was an

attack, our telecommunications systems, the fragility of our telecommunications systems is crucial to our ability to operate free markets.

If Chase Manhattan Bank goes down, if Citibank goes down, if Bank of New York goes down, and Bank of New York did go down, the economy of the free world comes to a halt. People will be unable to access their bank accounts, commerce will cease, trades will cease, and the enemy will have won.

So in lower Manhattan what we have to do is to create a carrier neutral, totally diverse, optically self-healing, wire network, fiber network, integrated around using our rooftops by creating a carrier neutral broad band wireless network.

If we do not do this lower Manhattan will become a ghost town, because we will not be able to convince anyone to come back to lower Manhattan to live and to work.

Lower Manhattan must be rebuilt, maybe not bigger, but better, faster, and more redundant than ever. If we do not do this, lower Manhattan will become a ghost town. And let's understand what that

means.

Lower Manhattan, right now, roughly 100 million square feet of office space, third largest central business district in the entire United States, third only to mid-town, at 350 million square feet, and Chicago's at about 110 million square feet.

So we are almost one and two, we are one and three. It is the financial core of the entire world. It is the economic engine that supplies ingenuity and capital to create jobs throughout the world.

A lot of people are talking about we need to spread this thing out, we need to move it to the outer burroughs, bad move, really bad move. There is a reason why Wall Street is Wall Street, there is a reason why the density of Wall Street is there, and we have to preserve that, because otherwise we are going to be rebuilding people transportation systems going out to diverse areas, and we will lose this buzz, and we will lose this energy of what lower Manhattan is all about.

So our goal, right now, is to go out and

create that specification, go to the users, go to those companies whose customers are saying, what are you doing to prevent this from ever happening again?

And the answer to that is the plan that I briefly laid out in terms of carrier neutral wired and wireless integrative. If we learned anything from this situation, is do not put your eggs in one basket, have multiple and redundant levels of communication, so that we can ultimately communicate if one system goes out.

The real estate community stands ready to step up. Firefighters, police, emergency service personnel, the folks that ran the 911 phone banks, they have done their job. And they've done admirably, and they've done it with incredible pride in their country, and pride in themselves, and pride in the people that they work with.

It is now time for the private sector to stand up, we are ready, willing, and able to do that. We have a new Mayor. I think he is somebody who understands how important downtown is. And we stand ready to do what we have to do.

So, again, I'm humbled to be here in front of so many people who really did heroes work on that day, and I can just let you know, from the private sector, that we are ready to step up, too. Thank you very much.

CHAIR WILHELM: Thank you, Mr. Gilbert, thank you Mr. Platt. We have one item that is not on the agenda that came up in a conversation this morning. And Chief McEwen would like to take a brief moment to discuss the proposal that has been reported in the trade press, that has not yet been filed with the FCC from NEXTEL corporation, and it involves the NEXTEL current spectrum, and public safety spectrum, and how that may be arranged, rearranged I should say, to public safety's benefit.

Chief McEwen.

CHIEF MCEWEN: The thought was that because this has been put on the table just in the last three weeks, that many people in this room that are intimately involved in public safety communications should be aware of the proposal, if you aren't already, and to understand that this is

something that is still in the discussion stage.

Let me give you the scenario of the events. First of all, most everybody in this room is well aware of the fact that we have been experiencing what we consider to be severe interference problem from commercial and cellular type systems in the 800 MHz area, where we are interleaved with other systems, or in the NPSTC channels.

As a result of that the NEXTEL corporation, unfortunately or whatever, is one of the big problems that we have been dealing with. And they called together, on October 24th, several people representing the public safety community, if you might.

Really, we have a number of different groups that kind of come together. We have the National Public Safety Telecommunications Council, which is intended to bring together all of the various public safety communications groups.

But within those groups we have very strong leadership from EPCO, and ICP, and the fire chiefs. Those people were called to a meeting in

NEXTEL headquarters on October 24th, and were given a proposal by NEXTEL for what they consider to be a solution for either eliminating, or at least for the most part, reducing this interference.

At the same time NEXTEL was clearly aware that we have been, and you've heard it several times this morning, complaining that we need additional radio spectrum.

In that proposal, and I'm not going to go into the details today. But the reason that we thought that this was an opportunity to bring people up to speed, at least, that there is something going on.

In that proposal it basically is a shuffling of frequencies at 700, 800, 900 and 2 gigahertz. Without getting into the details, the result would be that if, in fact, the FCC were to agree to this, and public safety were to support it, that we would end up with all of the public safety systems that are now set up in the upper end of the 800 band and the NPSTC area, and the interleave channels down towards the lower end of the band would

all be moved to a contiguous space at the bottom of the 800 MHz band.

That would also result in, from the NEXTEL proposal, in their swapping some of their channel space, and getting some additional space, that would eventually end up with public safety getting an additional ten MHz of spectrum in 800 that we don't now own, or have ability to license.

So if you can envision, in your mind, that this would be, then, 20 MHz of contiguous 800 MHz public safety spectrum at the bottom end of the band. And the second thing, and the reason that it is of importance to the people in this room, we are planning the 700 MHz new systems, is that it would be adjacent to that spectrum, and would allow for manufacturers to build equipment that would interoperate in both areas.

This is a significant proposal, and right now there are a number of issues that we are looking at. The issue of funding and the returning of the equipment is a big issue for public safety.

NEXTEL has put on the table a substantial funding offer to help offset those costs. That is

something that has to be further examined. We have people from the manufacturers looking at what those costs might be.

In other words, what would it cost to retune these various portable radios, mobile radios, base stations, what other kinds of things would have to be done to make that happen, and what would the cost be.

The International Association of Chiefs of Police, the International Association of Fire Chiefs, APCO, many different groups, right now, are looking at this very seriously, because this is what we believe is an opportunity that we may not ever see again.

As I made this presentation, and reported this to the Board of the International Association of the Chiefs of Police, just a little over a week ago, in Toronto at their annual conference, I made sure to tell them, and I will tell you here in this room, that this proposal requires national leadership.

If it is going to happen it could be, probably, one of the most significant improvements in public safety communications that I have seen in the

many years that I have been involved with trying to get spectrum.

But at the same time I reported to the Police Chiefs Board, that it won't be without some pain. In other words, those people that have to retune, those people that have to move these systems, will be required to do some things.

It is going to cost money, and we have to work out all those details. But I think that it is important to put it on the record here today that this is happening, this discussion is going on. It is very likely that in the very near future NEXTEL will file some kind of a proposal that relates to this discussion with the FCC, and it is very likely that public safety is going to weigh in pretty strongly in favor of the concept.

We are going to need a lot of help, from a lot of people in this room, to help us deal with all of the fine points, and how that might work. And, ultimately of course, it has to be realized by a whole lot of action by the FCC, and a lot of other people.

I think that is the issue in a nutshell.

We really don't have time today to have an open discussion of it. It is just really that it was put on the table within a couple of weeks ago.

For those of you that have more interest, certainly those of us who have been involved, Allen Caldwell is here from the Fire Chiefs, I represent the Police Chiefs. We have several people in the room representing APCO, Marilyn Ward represents the NPSTC.

We have people that have been involved in this proposal from the very beginning. And we would all probably be glad to talk with you offline here if you have questions that could be discussed, if you have an interest.

Thank you very much.

CHAIR WILHELM: Thank you, Chief.

I would like the Steering Committee to do two things this morning. The first thing I would like you to do is introduce yourself, and name your organization. The second thing I would like you to do is to vacate the head table here so that we can get our panelists up for the next presentation.

After the Steering Committee members

introduce themselves, we will take a five minute break while we shift people up here. It will, literally, be a five minute break, and we will be back with the band clearing panel at that time.

So let me start, please, with on my right, Mr. Tim Lowenstein, with a microphone, please.

MR. LOWENSTEIN: My name is Timothy Lowenstein, I'm from Buffalo County, Nebraska, served there as a supervisor on the Buffalo County Board, and I represent counties in the National Association of County Officials.

MR. MCEWEN: I'm sorry I didn't introduce myself, but I'm Harlin McEwen, and I represent the International Association of Chiefs of Police.

MR. LEE: I'm Bob Lee, I represent the Public Safety Wireless Network Program for the Department of Justice.

MR. LELAND: Wayne Leland, representing Motorola.

MS. WARD: Marilyn Ward, representing NPSTC.

MR. PROCTOR: Steve Proctor, from the

State of Utah, representing state and local members of the PSWN program.

CHAIR WILHELM: Thank you very much, we will take up, again, at 12:20, five minutes from now. Thank you.

(Whereupon, the above-entitled matter went off the record at 12:13 p.m. and went back on the record at 12:20 p.m.)

CHAIR WILHELM: Thank you, if you would take your seats, please, and I would like to remind you that one of the provisions of the Statute that this committee operates under, is that we have a record of attendance of persons at our meetings.

The lady in the back, in the red, is Joy Alford, of our staff, who has the sign-up book. And I would ask each of you to sign up and give us your name and e-mail address, for our records.

Secondly, you have been enjoying some coffee, and tea, and colas back there, and they come courtesy of IXP Corporation, and Motorola, who not only furnished that, but furnished the meeting facilities for us today, for which we are very, very

grateful.

Now, our last presentation before we break for lunch is a panel of experts who are going to address the critical issue of clearing the 700 MHz band of incumbent television stations.

I think you've heard from virtually every speaker, that was up here this morning, that clearing the band is a critical need for public safety.

From the FCC on this topic we have Kathleen Ham. Kathleen is Deputy Bureau Chief of the Wireless Telecommunications Bureau, and prior to this role she was chief of the auctions and industry analysis division of WTB.

And next to Kathleen, on my right, is Bryan Tramont. Bryan is the senior legal advisor to FCC Commissioner Kathleen Abernathy. He advises the Commissioner on wireless international technology, and enforcement issues. And we last heard from Brain at the NCC's meeting in St. Louis earlier this year.

On my far right is Bob Gurss, of the law firm of Shook, Hardy & Bacon in Washington. He is also no stranger to the NCC. As a matter of fact I

think he has a perfect attendance record at NCC meetings.

Bob wears a number of hats, among them counsel to APCO which has urged Congress to accelerate the DTV transition date. And next to him is David Eierman of Motorola. He has done extensive work to document the effect of incumbent television stations on public safety operations. And he has some suggestions on our public safety and television stations might be short-spaced to one another, without causing harmful interference thereby to get little additional use out of public safety spectrum.

On my immediate right is New York State's resident expert on 700 MHz systems, Bob Schlieman. He has helped us to understand the effects of the Canadian television table of allotments may have on the use of the 700 MHz spectrum for public safety use in the United States.

Now, I'm going to serve as moderator of this panel, and I don't think it is going to take much moderation, because I don't think any of them are bashful about expressing their opinions.

We are going to lead off with a presentation from Kathleen Ham on actions that the Commission has taken to free up the 700 MHz spectrum for public safety.

And following that we will have amplification of those measures, some indication of the dimension of the problem, both with respect to United States allotments, and existing television stations, and Canadian allotments, and comments from any of the panelists on Ms. Ham's presentation.

And with that, Kathleen Ham, the Wireless Telecommunications Bureau. Kathleen?

MS. HAM: Thanks, Michael, and thanks to the NCC for having this session today.

As a former New Yorker I have to say I'm so proud of the way this city performed on September 11th, and it was really something to hear what we heard this morning.

I'm going to try and move things along relatively quickly, because I know we are in the lunch hour here, and some of you may be hungry, I know I am.

But I wanted to spend a few minutes with

some slides to just go through some actions that the Commission has taken recently to try to benefit the clearing issues in the 700 MHz band, which we heard today, are so important.

First of all, just very quickly, as you know Congress in the Balanced Budget Act of 1997 provided for 60 MHz of spectrum in the upper 700 MHz band, 24 MHz of that, as you know, was dedicated to public safety, and 36 MHz to commercial services.

Congress also permitted, as part of that legislation for incumbent TV broadcasters to remain in the upper 700 MHz band until the end of the DTV transition, December 31st, 2006, or when DTV is available to 85 percent of the households in the broadcaster's market, whichever is later.

So a lot of people do assume that that 2006 date is out there, but in fact it is, it is, but the 85 percent penetration is controlling.

In a series of decisions, beginning in January of 2000, the Commission adopted policies to facilitate voluntary clearing of spectrum currently used for channels 59 to 69.

And the goals of these policies were to allow for the introduction of new public safety and commercial wireless services, and to promote the transition of incumbent analog television licensees to DTV service.

The most recent decision on band clearing was adopted on September 7th, and this decision made certain adjustments to the DTV rules to accommodate band clearing arrangements, including comprehensive band clearing plans, which the FCC recognized may be more likely to result in early clearing than individual negotiations between commercial wireless providers and broadcasters.

This is a portrayal of the band plan. As you can see, as you know, public safety lines up with 63, 64, 68 and 69.

Under the Commission's rules, in part 27, commercial wireless licensees are excluded from operating within a certain distance of any TV broadcast station on the same channel, or on an adjacent channel.

That means that a new commercial wireless

licensee must clear both co and adjacent channel incumbents. For example, a new wireless provider that is licensed for the 782 to 792 MHz portion of the band, which is co-channel to TV channel 66 and 67, must clear the adjacent channel incumbents on 68, which frees spectrum for public safety use.

And public safety is under no obligation, under the Commission's rules, to fund any clearing. Rather they are the beneficiary of commercial clearing. And so, as mentioned earlier, I think a comprehensive band clearing, band clearing has a very salutary effect on the availability of public safety spectrum.

I am going to go through just a couple of slides. I wanted to show you, very quickly, what happens in the New York area, and in particular an illustration of how it might work to clear channels 63, 68 paired spectrum within 50 miles of New York City.

And the channel 63-68 pair is encumbered within 50 miles of New York City by ten co-channel, or adjacent channel TV and DTV stations on channels 62,

63, 64, 67, 68 and 69.

And the following slides are going to show the exclusionary zones created by those stations. They are going to depict the situation that would exist if these stations were cleared, and depict the situation that would exist if channel 68, affecting the areas within 50 miles of New York City, is not cleared, 69 being that outlier station that is not immediately adjacent, channel that is not immediately adjacent to a commercial station.

I think the first is the exclusionary zone, just to give you a sense of what it currently looks like. And as you can see, based on adjacent and co-channel encumbrancy, in the New York City area, there virtually is no available white space, if you will, for public safety spectrum as it currently is the case in this area. Very congested with broadcasters.

Here is what happens when you clear channel 62, 63, 64, 67, 68, within 50 miles of the contour of New York. And, as you can see, voila, there is a lot of available spectrum in that area. So

this is why band clearing is so important.

This also shows that with channel 69, if the only channel we couldn't get cleared in New York was channel 69, you see here, through this, what it would look like.

And one of the benefits, I think, of the Commission's recent rule changes is that it is possible for channel 69 to be thrown into the mix for clearance. And I think that that is another nice side benefit to the Commission's recent changes.

The 700 Mhz public safety spectrum on channel 63-68 pair within 50 miles of New York City would be immediately available if commercial wireless licensees reach agreements to clear these ten stations.

And subject to compliance with the policies set forth in the Commission's band clearing decisions, and approval of regulatory requests necessary to implement such arrangements, broadcasters might choose to flash cut to a DTV allotment below channel 59, and relinquish their analog channel, temporarily continue operations on their DTV

allotment, and construct DTV facilities at a later stage in the DTV transition, no later than 2005, or 70 percent penetration, or move a channel 60 through 69 analog operation onto a lower channel allotment, licensed to a second broadcaster.

This is a so-called three-way band clearing agreement that the Commission provided for.

I think that is it. So -- and I'm sure Bryan is going to get into this a little bit as well. But I think the Commission went as far as it could go, I think, in terms of trying to provide and facilitate for some voluntary movement of, and voluntary agreements in this spectrum.

And I think that, you know, it is an area not without controversy. I think that the Commission is balancing a lot of different issues with the DTV transition, as well as making the spectrum available for public safety and commercial uses.

So I'm glad to say I think we've got an auction coming up June 19th with 60 through 69. We, at the Commission, and particularly in the Wireless Bureau, are very hopeful that we are actually going to

see some results as a result of these recent changes to our rules, and that we will see some voluntary agreements with broadcasters, and some of the auction bidders, and that we will see some clearing done.

If not, you know, then we may be going back to the drawing board. But for right now I think that that is something we are very hopeful we are going to see some results from.

So with that, thank you.

CHAIR WILHELM: Thank you, Kathleen. Bob Gurss, Kathleen said that the Commission had gone about as far as it could go with its efforts in band clearing.

Do you agree, and if not, what further action could be taken?

MR. GURSS: Yes, I would say that, from my perspective, the Commission has set the stage for trying to clear the band within the existing statutory framework.

And, unfortunately, the statutory framework is pretty restricted in what they can do, and that is why when it is my turn, unless you want me

to do it now, I will discuss that.

While the voluntary approach, if it works, is great we would probably want to look at some other options in case it doesn't, either for political or economic reasons.

CHAIR WILHELM: Could you amplify on that a bit?

MR. GURSS: Sure. The approach that the Commission has set up is dependent on two things. The most important thing is the economics work, in the sense that the wireless industry is prepared to reach the right agreements with the relevant broadcasters to do that move.

There is, has been some talk among some in the wireless industry, that this is not a band that they want, that they are now interested in pursuing aggressively. That they would much rather go into the two gigahertz area for their new 3G operations.

So there is questions about their interest in that band. I'm the last person who can judge the accuracy of that, but that is what they are saying.

So there may be some economic constraints.

There is also, and I think both Tom and Kathleen alluded to this, some significant political objections to the auction approach because certain broadcast owners in that band would reap a great deal of money because of dumb luck, being in the right channels at the right time.

And some very powerful members of Congress have made some very significant objections to it. How that plays out, I don't know. So what we've been trying to do is to say that approach is fine, it is a little bit out of our control, but we need to have a statutory change to ensure that there is a date certain for these channels to be cleared.

That the law is essentially changed, at minimum, to take out that little 85 percent loophole. Little, I use advisedly, giant is perhaps a better term. And ideally to move up the date to the public safety users, so that it is an early and firm date, so that public safety folks can know when it is going to be available, so they can spend the time, and money, and resources to plan systems, to purchase systems, and even install the systems, and have them ready to

go on the magic date.

Right now no one knows if you are in one of those exclusion zones, when you are going to be able to use it.

CHAIR WILHELM: Thank you. David Eierman, you saw the theoretical presentation on band clearing in New York. In your opinion is this feasible, or are there other alternatives to it?

MR. EIERMAN: I don't think there is any other alternatives. No matter whether it is channel 63, 68, or 64-69, in order to get any spectrum available in the downtown New York area, basically you have to clear five channels, no matter which of the five channels it is.

And, you know, if you want to look at half, if you want to look at the Long Island side, maybe it is only four channels, the New Jersey side is maybe only four channels.

We've been going through the co-channel and adjacent channel interference issues at T-band, trying to stretch land mobile out as far as we can, for years. And we just know that if you don't clear

the whole band, there is issues.

So, you know, her slides are basically going to look like the slides I plan to put up. But it is basically going to show that whether it is New York, or actually almost any of the major metros, from Richmond, to Boston, San Francisco, Los Angeles, there is about five TV channels that have to be cleared to get access of half the spectrum, 12 up to the 24 MHz at each major metro area.

CHAIR WILHELM: Bryan, one of the issues that was not mentioned today, that they industry thinks is very important, is the development of a mandatory rule, which probably would require legislation, although that is by no means certain, that would require all television receivers to have DTV capability.

Do you see that kind of rule coming from the Commission on its own, will it require legislation, and do you think the industry will prevail on that request?

MR. TRAMONT: And I thought we were friends before you asked me that question.

I don't think that is something the Commission is likely to go out and do on its own. And if Congress chooses to do that, I think that is perfectly appropriate, that is their call. And to the extent where you are called upon to implement that legislation, obviously we will do so.

But the Commission's jurisdiction extending to manufacturers, and imposing that sort of requirement, I think that is -- it would be an aggressive interpretation of the statute.

CHAIR WILHELM: Do you think that the Commission might impose must-carry obligations on cable systems to carry DTV stations?

MR. TRAMONT: I think they've already started down that road. I think we've mandated carriage in situations where there is what is called a singleton, where you have only a DTV allotment, you don't have an analog allotment.

I believe the Commission continues to consider the digital television carriage obligations in an open rule making. And so we will see, I think that one of the keys will be clarifying those rights

going forward, in terms of how the 60 to 69 band will be cleared.

Because your question raises the key issue, which is a lot of folks are reluctant to go to digital until they know they have their must-carry rights.

In addition, in the order that Kathleen discussed, we granted additional flexibility to broadcasters to remain in analog after the switch is made, both ensuring carriage and over-the-air reception for a longer period of time.

So it wouldn't require them, actually, to go immediately to digital as a result of the band clearing arrangement, which would allow them to maintain their must-carry rights without implicating the larger regulatory issues associated with must-carry of multiple streams of video.

CHAIR WILHELM: Thank you. Bob Schlieman, we've been talking exclusively about New York City this morning. You have a wider interest, encompassing New York state.

Could you tell us a bit about the

influence of Canadian TV allotments, and what New York state has done to change that to a structure that would be more friendly to public safety?

MR. SCHLIEMAN: Well, first let me say that in the slides that Kathleen had, I noted that for the channel 69 issue you were dealing with the regulatory B contour plus 25.

And since the B-contour is defined at 30 feet above ground, and those are the mobile transmit frequencies in public safety, which would have tower top receivers, generally with pre-amplifiers on them, to try to equalize talk-in and talk-out, I suspect the interference impact will be substantially greater than what was depicted, as far as signal impairment to public safety is concerned.

Shifting gears to the --

MS. HAM: The bottom line is we need to clear 69.

MR. SCHLIEMAN: Yes, that is exactly right, in that specific case. But the grade B contours are more relevant in terms of mobile transmitters, I'm sorry, base transmitters interfering

with TV, than the reverse, because we get clobbered easily when we try to put preempts on tower top antennas to extend the range for those areas.

Maybe not so much in New York City because of the RF environment. But certainly in the rural areas we are trying to make a radio system work without putting in 1,000 towers. People don't want towers, we all know that.

On the Canadian front, as you know, from FCC meetings, we have been very concerned about what was happening there, and particularly the fact that in the DTV allotment that was done in Canada, they ended up with everything but the kitchen sink in the area across from the New York border, and on either side of that, east and west, particularly the public safety band, of course, which is our interest.

We attempted to find a solution to that problem, and did a little sort process on our own, and at the same time we have followed the same process that the FCC did. We did not entertain the low power stations, and we certainly did not entertain stations that were not on the air, which the FCC did not, also.

And we were able to put all of the stations in Canada in the area that we surveyed. And we only did the region one area, which is around the New York state boundary, plus or minus, and we had found that we could accommodate all of their DTV that is active that are normal power stations, and clear 60 to 69.

Now, Canada has, public safety in Canada has been pursuing this, because they want to harmonize with the U.S., and the commercial people want to harmonize with the U.S.

So Canada has had a notice out this fall, which people have commented to, and the comments have basically supported harmonization of the frequency band, allowing land mobile operation in that frequency spectrum, which they did not have in their plan before.

Now, when they get finished with this notice they will, undoubtedly, have harmonization authorized in Canada, and then we hope that they will re-look at the DTV allotment plan, along the lines that we have suggested, to free up the spectrum.

And I wanted to make one comment about early band clearing. I understand that some of the broadcasters in the upper channels are considering shifting their operations down to their lower DTV allotment, continuing there with analog until they have to go digital, and thereby early clearing of the upper band.

And that would have a substantially beneficial effect for us if that were to happen. We look forward to those kinds of arrangements.

CHAIR WILHELM: What I would like to do now is invite any questions or comments from the audience. If you do have a comment to make please use the microphone over to my left. We are recording these proceedings, and they are transcribed, so it is necessary to speak into that microphone.

Does anyone in the audience have a question, or a comment on what the panelists have said this morning?

MR. TRAMONT: In lieu of a question I would like to comment on one thing that --

CHAIR WILHELM: Please do, the panel

should be free to interact as well.

MR. TRAMONT: On the harmonization front, one thing that the Commission is looking at now, and I think it is important to keep in mind, actually, as disasters become more multijurisdictional, is that India has put forward a proposal in the World Radio Conference, through the IT process, to have globally harmonized public safety bands.

And it is on the agenda for the work in 2003 in Caracas, Venezuela. And you can imagine, internationally, having all these same issues that you have, so it is important internationally as well.

So in keeping with what Canada has discussed, 60 to 69, is something to keep an eye on, in terms of the international coordination issues.

MR. SCHLIEMAN: Is it true that the U.S. position is to not move forward with global harmonization?

MR. TRAMONT: I think there is some discussion about what the U.S. position will be, which is one of the reasons I wanted to flag it.

I think the question is whether or not

there will be one band, per se, identified as opposed to a sweep of bands, as we did for 3-G.

CHAIR WILHELM: Bob?

MR. GURSS: First of all, on that issue, there is a number of meetings going on trying to forge a position. But Bob is correct that there has been a lot of resistance from the State Department, and other folks, on the concept, in terms of harmonization, which goes well beyond these band issues.

But also I wanted to, before we are done, talk about this legislative approach. Because, you know, so much of this issue is going to depend upon the Hill, which is unfortunately one group that is not represented here today.

I mean, it is great that the Commission is here, it is great that it is here. But as Tom Sugrue mentioned, the public safety community needs to focus a lot of attention on addressing these issues legislatively, as well.

There has been a lot of preliminary discussions with APCO, and the police chiefs, and the fire chiefs, and the League of Cities, and the

Governors Associations, and the National Association of Counties, to build the kind of coalitions that are necessary on this.

And there is at least one or two members of Congress who, I think, are going to probably introduce some legislation very soon to get this issue moving, and it is going to require a lot of work by the community, the kind of people in this room, who know the communication issues, are going to have to educate their bosses, if you will, the police chiefs, and the fire chiefs, and the mayors, and the governors, about this issue.

Hopefully we will also be hearing from it, from their associations at the same time to kind of move the process forward. There is a great amount of sympathy for public safety, there always has been, for the reasons we've heard today, there is more than ever today.

So there is a window of opportunity to explain why this is an important issue, and it is going to require a degree of legislative activity on this, to address what was in my mind, and in many

people's minds, a terrible statute that was passed in '97.

I think there aren't even too many people in the Hill right now who would claim credit for writing it. And even though I know who wrote it. So it is a very important issue to try to go around. And I think a lot of you will hear a lot more about it, soon.

CHAIR WILHELM: Dave Eierman, if there is band clearing, at least in some communities in the United States, is there going to be 700 MHz equipment available for public safety to use?

MR. EIERMAN: Yes.

CHAIR WILHELM: Thank you. And how long do you think that would take?

MR. EIERMAN: Soon.

CHAIR WILHELM: Can I talk to you after this panel, please? This is something of a critical issue. It is a chicken and egg problem. And the FCC has developed the technical and operational standards for 700 MHz equipment, but as yet we have no indication from the manufacturing community, when that

equipment might be available.

And I'm trying to put David on the spot, primarily because he is with Motorola, and he is the only manufacturer that we have at this head table.

Do you think when the band is clear that Motorola, in fact, will produce product?

MR. EIERMAN: Well, at the rate it is going we will have equipment long before the band gets cleared.

CHAIR WILHELM: Bob, you had a comment?

MR. GURSS: I have some third party information here since he is probably going to get fired if he says this stuff.

The third party information I have is that it is being beta tested in the field today, and it is going to be available very soon for those areas where band clearing isn't necessary.

I mean, you know, there are a lot of parts in this country where you don't need to clear all the bands to operate. And especially people who want to expand, who want to have a 700 to 800 combined system.

And the new radios, I've been told, will

operate in both bands. So I think the equipment will be there long before the band is cleared. How much of that equipment is there is going to depend on how quickly the band is cleared because that affects the size of the marketplace, and how many vendors are willing to get into it, obviously.

CHAIR WILHELM: On the subject of equipment and rules, the Commission's fourth report and order is -- several petitions for reconsideration were filed. And this is a little off the subject of band clearing, but it is a matter of interest to many people in this room, and I'm going to try to put Kathleen, and perhaps Bryan, on the spot, and ask them when we might see an order on this subject. Don't say soon, please.

MR. SCHLIEMAN: Very soon. Commissioner Abernathy's office has voted that item, so it should be out soon.

CHAIR WILHELM: Oh, excellent.

MR. SCHLIEMAN: So keep tuned, keep looking at the NCCs webpage, and you will see how those petitions were disposed of.

MR. GURSS: Another point I forgot to mention, which plays a piece in this band clearing, that some of you are familiar with, as I mentioned earlier, there has been some discussion among some of the cellular and wireless industry that maybe this isn't a band that they want to go in.

There has been a suggestion, coming from their quarters, that perhaps the entire band, 700 MHz, become a -- it has been referred to as a homeland security band. And that the additional 30 MHz that is to be auctioned instead becomes a primarily federal, but maybe also state and local public safety homeland security type band, which would then create this very substantial block of spectrum in the 700 and 800 band for all public safety type of operations.

I don't know what the federal agency's response on that is, I'm not sure they have one yet, they are only recently aware of this concept. There is some real interest in it, among some people on Capital Hill, but there is also some budgetary issues.

This auction that we are talking about, there is a byzantine concept known as scoring on the

Hill, and it is not what they do at the bars afterwards. It is a process which is just as mystical to me, of trying to assign dollars to things like future auctions of spectrum.

And they came up with, as I've been told, a four billion dollar number for this spectrum to be in the auction. So if they were to somehow take that off the auction table, someone would have to find four billion dollars to replace in the budget.

So there are a lot of issues there. But I want to mention that, because that -- one of the reasons that is being mentioned is that that then creates a very substantial interest in clearing that band beyond what is there now.

Whether or not those pieces come together, I don't know. But that is another, yet another concept that is floating out there, to clear not just the public safety bands, but the channels where all the channels are.

CHAIR WILHELM: I will ask Kathleen to put human resources old auction hat back on and address this question. The auction has been delayed several

times, it now has what is purported to be a firm date. Do you think it will be a firm date?

MS. HAM: My boss is sitting in the audience, and -- I think we are prepared to run this auction June 19th. I know it has been delayed several times, but I think there is, I think, a view within the Commission, it is not a cohesive view, but that having the auction will actually help facilitate band clearing, because you get some people in there that have a vested interest in the spectrum, to clear it. and then it could facilitate it.

So that is one reason to have an auction. I also think we are going to be, I know Bob is alluding to the fact that there may not be much interest in the spectrum. We are going to be putting out a PN very soon, asking for sort of renewed comment on what the minimum opening bids for the spectrum should be, and that is going to be an opportunity, I think, to test the waters, again, to see how interested people are, or not, in the spectrum.

So I think -- but right now we are on course to do it June 19th. I will also add that we

have spectrum from 52 through 59 that also is part of that legislation from 1997 that Bob takes issue with, requires us to auction that spectrum, as well.

And that spectrum is even more encumbered than 60 through 69, way more high powered and low powered stations. And that is something, too, that I think we are going to have to be looking at scheduling an auction very soon, because it has a September 30th 2002 deadline in the statute as well.

CHAIR WILHELM: So I think the title of the next item that comes out, what if we held an auction and nobody came? I will give one last chance to this audience to address the collective brain power represented on this panel, and then we will break for lunch.

Sir, would you identify yourself, and then state your question?

MR. BISHOP: Yes, Don Bishop, Mobile Radio Technology Magazine.

I haven't heard any mention, so far, regarding the potential interference from commercial wireless carriers that might occupy the band into

public safety. I know that had been a matter of some concern, and suggestion made of changing the technical rules to prevent that. I just wonder where that stands.

MR. EIERMAN: I think when we get the spectrum then we will worry about that. No, yes, we've had concerns all along about the, you know, the interference problems we've had at 800, concerns that we don't want to repeat that at 700.

So I know we have been continually discussing the issue to, you know, make sure that whatever -- you know, the rules in place, we feel, are insufficient, and we would like tighter rules to protect public safety.

CHAIR WILHELM: Bob, I know that APCO had a considerable interest in this question.

MR. GURSS: Yes, and NPSTC filed a petition for reconsideration of the rules. And just within the last week or so, I believe, TIA filed a document which is a follow-up on a next party meeting that took place a couple of months ago, addressing in further detail why these rules need to be adjusted

based on more of the experiences in the 800 band.

And that is a document that should be in the public record now, so you can take a look at that.

CHAIR WILHELM: Kathleen, did you have a comment on that?

MS. HAM: I think we are going to be looking at that. I will say that I think that we did learn something from the 800 MHz band, and that part of the problem with 800 MHz has been that we divided the spectrum up into all these little slivers, and interspersed it with what are now commercial users, and the spectrum use has changed.

I think we did -- the good news is, with 700, that we did create a guard band, we were very sensitive, I think, in crafting the interference rules, and so forth, on this issue. But we will look at this latest proposal.

I do think that we have, we have learned something from 800, and I think hopefully that will pay off in the end.

MR. TRAMONT: And just in terms of discussing 700 in the context of 800 I think raises

the larger issue, which is, what are we doing with the large? And I think, you know, we've got the 700, we've talked a lot about that band today.

We've talked a little bit, and Harlin mentioned possibly looking at 800 to see what we could do to solve some interference issues there. The 4.9 band is, hopefully, relatively ripe for a decision, and we will be able to move on that.

I think you may see some more moving on priority access as a complement to dedicated wireless, public safety wireless bands. And then some of the reliability and diversity issues that were teed up.

So I think the Commission has a broad approach to public safety wireless issues at the moment, and that these are sort of the five lead horses in the train at this point.

CHAIR WILHELM: Well, I think that is a pretty good windup for the panel this afternoon. We've held you 15 minutes longer than we said we would, but I will hold you 30 or 40 seconds more longer, and ask for a round of applause for our panelists this morning.

(Applause.)

CHAIR WILHELM: We will take up, again, at 1:45.

(Whereupon, at 1:45 p.m., the above-entitled matter was recessed for lunch.)

A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

CHAIR WILHELM: John Oblak brings an impressive background to his position as Chairman of TIA's Engineering Committee for Private Radio. John holds a master of science degree in electrical engineering from the University of Pittsburgh.

He began his career in 1973 working for RCA. We all remember RCA, I guess. In 984 he joined the E.F. Johnson company where he is now the company's chief engineer. He has been associated with TIA for 20 years, and today he is going to report on TIA's progress in developing a 700 MHz wide band data standard.

MR. OBLAK: Thank you very much. I presented, yesterday, a brief overview of where we are in the process. And the slides I will use today are the same slides. However, I would like to maybe do just a different focus on my presentation.

Obviously I won't go into as much technical detail as I had yesterday, which means this will be mostly overview, but primarily to cover those areas that show where we are making progress, what our

plans are, and what we expect to accomplish.

First of all, to say, we at TIRA TR-8 are very appreciative of the fact that the NCC has come to us for the development of standards for wide band data. We take this as a serious responsibility. I believe we are up to the task. And what we would like to do is present to you a status report on where we are.

In the past at NCC meetings, myself or Wayne Leland have given very informal reports on where we are. This is a more formal report. And I expect that we will be giving more throughout the coming year, to show you what our progress is, and where we are going.

Our agenda today, we are going to go through, very briefly, the NCC requirements as we see them, focus in on our wide band progress to date. We will, very briefly touch on some of the technology including the physical layer of technology selection.

And we will also talk on the standard sweep and their development schedule, and how we plan to accelerate and move this forward at a more rapid

pace.

The requirements, as we understand from the NCC, the requirements have come to us as of June of 2,000 requirements being that we would meet all three of the band widths that are outlined in the 700 MHz band for wide band data that includes 50 KhZ, 100 KHz, and 150 KHz, at the various rates.

In addition all three configurations, both radio to fixed network, radio to radio, and radio to repeater, would be supported. The basic attributes of text messaging, and mobile radio support are mandatory with optional attributes of ground to air video transmission, e-mail with file attachment, and internet connectivity with encryption.

We see the work product that TIA will produce, includes a number of standards, a suite of standards, if you will. The first of which is a wide band system and standards definition, a somewhat overriding top level document on wide band data.

Currently this document has been written, it was balloted, or approved for ballot in our August meeting. The ballot went forward, and we agreed to

publish the this document in our meeting on October 1st.

So this document is well under way to becoming a, what we call a TSB, telecommunications systems bulletin. So this is one form of the document that we have.

Next the work that we are taking up is the wide band air interface standard, we call it the WAI. And, first of all, and that is the lowest layer of the model, it is the physical layer specification. And, certainly, it is a pivotal document, it is a cornerstone document, much as the common air interface was to project 25. This is equivalent, in the wide band data world.

We, initially, had five technologies proposed, and have subsequently narrowed them down to two technologies that have gone forth for ballot. And in our October meeting two technologies were agreed to send to ballot, one being the scalable adapted modulation, or SAM, that is a Motorola technology.

The other one being isotropic orthogonal transform algorithm, or IOTA, and that was from EADS-

DSN, and Nortel networks. And so those are in the process of being balloted at this very time.

In addition, in the work that we did, in August we defined a schedule for the work that needs to be done in wide band data standards. In that August meeting we agreed to accept that schedule, and we are driving very closely to schedule adherence.

It is a rather aggressive schedule, and yet I will later show you some of the things we are doing to try to keep on schedule, and to in fact do better than we currently are projecting.

The following slides describe the suite of standards that we anticipate as defining wide band data. First of all, the wide band data systems and standard definition, that is a document that we said has already been approved for publication, and is in the publication process right now.

Following that is the wide band air interface overview, and this is an overview document on the wide band interface, and sub to that are five additional documents that define the wide band air interface, the first one being the physical layer

specification, and as I mentioned, two technologies are proposed, two are going out to ballot.

The second is the media access control layer specification. That is also in the process of being developed. And in this document we are trying to converge, again, we do not want to have two technologies or multiple technologies sent to ballot, we want to converge to a single technology. And in this document we are trying to converge to the single technology.

I might also mention, and even though we are balloting two technologies for the physical layer, it is our goal, in the end, to propose a single technology for interoperabilty. So the fact that we are going down a two-pronged path doesn't say that that is where we will stay, it is just that we anticipate, in the end, to converge to a single recommendation.

The radio link adaptation layer, the logical link control mobility management, again, these are all documents that define the wide band air interface. And the next one being the pack of data

specification. And then we have documents that deal with our services, wide band data supplemental service, text messaging specification, transceiver methods of measurement, and transceiver performance recommendations, and the last one being the wide band air interface conformance test.

So we believe that these documents define the suite of documents that specify wide band data, and are required. Now, the question we ask is, which one of these, or which ones of these are required to define interoperabilty?

As you are aware, there are some 30 documents in the project 25 suite of standards. Not all of them are referenced in NCC, and FCC rules, as defining interoperabilty. In fact, there is only about 9 or 10 of them that are referenced as being pivotal documents.

We also feel the same way, that not all of the documents within the suite of standards will be required to define interoperabilty. We feel that there are a few key ones. Those including the wide band interface standards, and their five sub

documents, and the text messaging specification.

We believe that these documents represent the subset that will define interoperabilty. The next few slides we are going to go through very quickly. I don't propose to spend any time on them other than to say that the approach we are taking is a wireless internet approach with its protocol layers, as defined here.

And we have three slides defining the various reference models, and protocol models for the three modes of operation, radio to fixed network, radio to radio, and radio to radio through a repeater.

So this is the radio to repeater, the next one would be -- okay, very good. No, no, I don't propose to spend much time on the technical details here.

Current work is involved in the layer 2 technology, and we have received proposals by a number of manufacturers. In fact, there were five, Motorola, SAM was the first, Nortel and EADS for IOTA, Marconi Simoco had presented Tetra II, Comspace presented wide band DCMA, and Interoperable Wireless VMSKII.

Subsequently Comspace and Interoperable Wireless have withdrawn their proposals, because of a change in their business direction. Likewise, just an overview of the physical layer technology.

As we mentioned, there are two currently under ballot, and the next two slides define the two technologies that are proposed, both SAM and IOTA. I think the only thing we want to take from these, they are certainly busy slides and could be reviewed later.

But the two technologies are different, they are different techniques, and yet I think if you look at the end result, the bit rates that are achieved are fairly comparable. And so we say they are two distinct ways to solve the problem.

So kind of an overview of where we are. Here is the schedule that we are trying to adhere to. And it is broken down by half years. It is a fairly granular schedule, but we do have a detailed schedule that defines it in more detail.

First of all, the TIA deliverables in the second half of this year, wide band data system and standards definition, as I mentioned, that is done

with the publishing of the document.

TIA ballot of the physical layer specification, again, those are done, both documents have been approved for ballot. The third being technology proposals for MAC/LLC, and RLA layers. Those also are done, and are currently in work in the subcommittee.

Deliverables for the first half of next year, a physical layer standard. In other words, publication of the document. Wide band air interface overview as a telecommunications systems bulletin, again, underway. And wide band adjacent channel a couple power recommendations to the FCC. And, again, work there is under way.

Additional work that needs to be started, and finished, a ballot of the various layers of the wide band air interface, technical proposals for other layers, as well as technical proposals for application layer.

TIA deliverables in the second half of 2002, wide band MAC/LLC, RLA layers, and TIA standards, ballot of wide band upper layer standards,

ballot of wide band data text messaging standards, and technology proposal review of supplemental services.

So these are things that are second half deliverables of 2002. First half 2003, wide band data transceiver methods of measurement, and transceiver performance recommendations.

As you notice, we've already started these. We feel we are a little ahead of our schedule in getting these standards out, and so we are going to continue with that, and try to make as much headway as we can in those standards.

The wide band air interface conformance test, and supplemental services also need to be addressed.

Again, as I said, we realize the urgency of getting these standards out. We realize the mandate of the NCC to have their work wrapped up by February of 2003. We are trying to work to a schedule.

Again, as I said, the whole suite of standards does not necessarily define interoperabilty. A subset of those, we feel, would be sufficient to

define interoperabilty.

We are putting priority on those standards that we feel are pivotal to the interoperabilty issue. And so that is what we are trying to do. Again, things that we are trying to do to accelerate our pace.

First of all, we are having working conferences two or more times, between meetings. In fact, they are occurring more often than that, they are occurring biweekly. As I mentioned, we have started a little bit early, ahead of schedule, on some of the other document work. TR-81 and 86 have begun work on performance recommendations and methods of measurement.

And so those are proceeding ahead of schedule. We've prioritized some of the documents, as I mentioned, that are pivotal to the interoperabilty standards ahead of those that we feel are not so crucial to defining interoperabilty.

So we've done some prioritization of standards. Obviously we are utilizing as much of the existing technology as we can. Obviously the

internet, the IETF standards, using as many of the industry standards that are available in the ITU, as well as drawing heavily from APCO project 25 standards.

Basically those are the things we are doing. I mentioned, also yesterday, and I believe it to be true, that I do have confidence in where we are going, in addition to this I have great faith in the chairman that is leading this effort, Jeff Anderson from Motorola is probably new to the TIA process, and a young fellow. And yet his leadership and maturity has certainly been evidenced, and I have great confidence that his leadership will get us there in good stead.

I don't propose to spend any time on these other than to say that we do have a detailed schedule. Bob, if you can just scan through those, that define basically the very granular schedule that I showed you before.

And so we are working to these schedules, and making every attempt to deliver what we need to deliver to the NCC in the time frame that is required,

that being February of 2003.

And I would certainly entertain any questions.

MR. NASH: Glen Nash with APCO, and chairman of the technology subcommittee.

One, thank you for all the work that you have been doing. You guys have really come a long way on this, and it is looking like we might make the schedule after all. So a lot more hope than I had even a few months ago.

One thing I noticed, as you went through the slides, and particular relative to the two proposals, I noticed that the IOTA proposal, you indicated it addressed only the MAC area, whereas the SAM proposal addressed MAC, RLC, and LLC.

Are we to assume that IOTA will use other RLC and LLC, or --

MR. OBLAK: Yes. I think the -- what we currently have, the original proposals for IOTA were at the physical layer. And certainly NORTEL networks, and EADS DSN have presented proposals for other layers in the protocol stack, as well.

Currently we have taken the two pronged approach between SAM and IOTA for the standpoint of a physical layer. But, as I mentioned, we are trying to get back to a single track, single standard.

And most of the effort that has gone on in the telecom meetings that we have been having between the regular TIA meetings, has been to achieve a consensus at a common protocol stack, all the way up, excluding the physical layer.

And then at some time we certainly will have to make a choice between physical layer protocol specifications, as to which one we are going to recommend to the NCC.

MR. LELAND: If I could make some more comments, too. This is Wayne Leland I also chair the private radio section with TIA, attend all these meetings.

We have to remember that the interoperabilty standard is just for the interoperabilty channels. And on the general channels you can use anything you want, as long as you will have the interoperabilty incorporated for the

interrupt channels.

So the fact that two standards are going forward is not all bad, because then -- and I'm totally confident that with NTIA we will come up with a single recommendation for NCC and for FCC. However, we may continue with two or more standards for the data itself, but they will all be required to use whatever the FCC ultimately chooses as the interrupt standard.

CHAIR WILHELM: Our thanks to John Oblak. Many of you worked on project 25, and know what an exacting process standard setting is. And the schedule that John described is an ambitious one, and I hope that we will see a final product in 2003, and I know with John's help we will.

I have some sort of sad news to report. I'm sorry to inform you that Carlton Wells, or Carlton Wells state of Florida as he is usually known at the NCC, has tendered his resignation as one of the most valuable members of the implementation subcommittee's working groups.

Carlton's new marching orders are to

ensure the success of Florida state-wide 800 MHz system. Because he is going to be devoting 150 percent of his efforts to that task, he is no longer going to be a familiar voice at our meetings.

And I just wanted to thank Carlton for a job well done. He said that he might have to leave early, and I don't see him in the audience. If you are, would you please stand up, Carlton? Just missed him.

Well, the sentiments are still there, he has done a tremendous job, and it is with regret that we accept his resignation.

I would next like to introduce David Byrum. At the NCC's meeting in Orlando, Florida, in January of 2001, David Byrum of the Pinelas County Florida Sheriff's office, gave us a very tantalizing preview of the preliminary results of the Greenhouse experimental wide band data system.

Today, after nearly a year's experience with that system, indeed an expanded version of that system, David is here to give us additional technical and operational details. David?

MR. BYRUM: Thank you very much. This information was presented yesterday, briefly and quickly. And today we can go through it at whatever pace is comfortable.

What we are going to talk about is, as Mr. Wilhelm said, is one year later, after the implementation of the SAM protocol in Pinelas County, Florida, in a real system used by officers.

What we have is the first field deployed wide band data system in the world. It is operating at 460 kilobits per second with integrated voice data, full duplex voice. It is based on end to end IP protocol, similar to what your internal networks are using, provides us intranet and internet access, which our agency is a very heavy user of, within the office environment previous to this.

Voice over IP using the IMBE vocoder, video applications that the Greenhouse project supports, uses these streaming video over IP, again, to use the standards in place, and quality of service, which allows various applications to adjust the parameters of the transmission stream to best suit the

application for thruput.

What we are going to talk about today is basically a subset of what could be a future system. The equipment, the radios, and some of the features are just what we need to do some evaluation, but it would not represent a complete system.

And since this is a pre-production research project, it is not really an alpha or a beta test of any product. However, in spite of that fact, it is in use by our officers today.

A little bit about my agency. We have been a user of mobile data since 1975. We presently have grown to a fleet of 550 mobile data units. However, we are still stuck with old technology, and looking to upgrade. And this is where my interest in this 700 MHz wide band data has taken me.

Some of the things our agency has pretty much mandated the next system will do, is that it will continue to provide internet and intranet access, making use of the driver's license photos, and crime scene photos that our agency uses regularly.

Crime reports and analysis from the field,

provide us a full CAT interface for dispatching and status of our officers. We would like to get an interface with our county GIS System to provide all the benefits that the county's property appraiser's office, and utilities and others have available, but would presently be too much of a burden to bring out into the field.

We would like that ability, and fire has some unique needs, such as fire hydrants, and building plans, and things like that.

Kind of to sum up what we were looking for, is we wanted to do everything in the car that we could do in a desktop, and we wanted to do it at speeds that were suitable for public safety.

We wanted to maintain that internet connection to our state and local data bases, FCIC and CJ net. Our agency would like to entertain AVL and mapping in the car for the plotting of calls, and the locating of our resources through a GPS receiver.

We saw a definite benefit to having video, either from the car or to the car for unique situations where an image can convey a lot more

information than a description, a verbal description.

And we would prefer it to be a full duplex, like a video conference with audio, or a conference between a vehicle and a dispatcher, or somebody in an office, for example, to consult with your supervisor on various subjects.

And to make a complete system out of it we would like it to also contain a voice component, such that it could be deployed as one system to meet all the needs.

We are going to show you a short video segment that was created to demonstrate this technology to some federal interests. You will notice it does lean heavily towards federal uses. But when it is over we can talk about what you see here.

(Whereupon, a video was played.)

MR. BYRUM: Those are just some examples that we put together to demonstrate how this equipment was being used, could be used.

In more detail, here is some of the installations that we've done to this date. In the upper left corner a typical installation in three of

our sheriff's cruisers.

Below that the mobile unit, which is a roll around cart that is outfitted with all the equipment that would normally be in a vehicle. This allows us to roll it into offices, and do broadcasts from within the office.

Right next to that is our ambulance installation. There isn't a lot of room left in the front of an ambulance, so we had to fit it in as tightly as we could.

One of the things that was different in the ambulance installation is we put the camera on a removable mount, using a very long cord, which gave us the ability to take the camera out of the vehicle, and take it around the back, or into an accident scene, and actually send video through the ambulance Greenhouse equipment, back to the dispatchers, or possibly in a future installation, to a doctor or emergency room.

Directly to the right of that is an installation in a fire vehicle. We also did one in a district chief's vehicle. Again, the mounting was

quite challenging, as there wasn't a lot of room in there.

Above it, and to the right, is a surveillance van. This is a typical installation that law enforcement uses for gathering intelligence with audio and video. And we installed, directly to the left, and on the floor of that chair, the Greenhouse terminal, which is the display and keyboard.

The camera used with the Greenhouse in that installation was the periscope camera on the roof of the van. And then the center top is a display of what a dispatcher position looks like. It is two flat monitor screens. The one on the right represents what is called the multimedia interface, which is how you control the cameras, and the audio.

And on the left screen would be your cad screen for your dispatcher, or your AVL screen, depending on how your agency would implement it. And we have two dispatch positions, one in the sheriff's office, and one at the EMS dispatch facility.

So the multimedia situation we have been provided with five different functions, the first one

two way video, which is a video conferencing scenario, both parties see each other.

Video, of course, meaning I can send video to a unit, and I can do that from either a camera, a VCR, or any other video source by just inserting it into the dispatch console, and push it to another vehicle.

Video pull would be an opportunity for us to query a car and have that camera send us a picture. And this would be very useful for an officer whom we can't seem to reach on the radio. This would allow us to pull video from that vehicle.

We also have the one way video with audio, which is more like a broadcast. Here is a picture, and I'm narrating it. I don't need to see who is receiving it, and a two way audio, which is the audio component. And, again, this is full duplex audio, which is a little different than the audio that public safety has been using up to now.

Across the bottom is an example of three of the screens that the unit in the vehicle sees. The one on the left is a regular CAD enquiry screen, with

a small window in the upper right corner, which is a video window.

And as you compare it to the windows on the other slides it is changeable in size and position. That is done at the user level. You can have it overlay the screen so you can keep something in view, or you can shrink it down so you can see more of your data information, or you can eliminate it completely, you can just turn the video off for the moment.

The system became operational December 20th of 2000. And it really did exist our desktop functionality into the field. In fact, when the system was installed in the first car, and was made functional and on the road, it took less than 30 minutes for us to bring in all of our desktop applications, because of the use of standards we were able to plug it into our existing building data network, and it was just configured and addressed as another terminal in the building.

So everything we can do in the office was now available in these cars. The system operates over

a 700 MHz experimental frequency. Pinelas county is located west of Tampa, Florida. And it is one of the counties that does not have an encumbered TV station to deal with in the channel 64-69 arena.

So that gave us the opportunity to put this on the air, on the band. It uses 150 KHz channel, and it does use the proposed scalable adaptive modulation, one of the two standards we just heard about.

Again, make sure everybody is clear that what this is not, it is not a product, it is not something that is in production right now, so you can't buy it. And it is not an alpha to beta test of that product. It is more of a research project. However, it is being used by our officers.

That is the really valuable part of it for our agency, is our officers can not only challenge the system with their needs, but they can provide new ideas, and critique it, and challenge us with different scenarios.

And over the last few weeks we have had a few scenarios that suggested that the system can be

tried with. Quickly the scaleable adapted modulations is based on the premise that there is multiple levels of modulation density, and different channel widths.

The way it is proposed to work, it would be within an area of high signal strength. Near tower sites you would have your highest thruput maximum modulation density, and as you worked away from there, the system would adapt in order to maintain thruput without losing the connection.

And then you would build a system based on your needs, where you need coverage, where you don't. Here is a quick chart of numbers. Across the top you will notice the three channel widths, 5100, 150 KHz channels. And the left side represents the three modulation densities.

Presently the system that we are testing operates at the 460 kilobit per second rate. However, the maximum speed was up there near 700 kilobits. Why a Greenhouse? Well, it is good for both parties. It takes the operational needs of an agency, the spectrum which is, hopefully, soon going to be available, and the technology that presently has not been used or

deployed puts them together, and puts them in the field for the users to evaluate.

It also allows the manufacturers to tailor that product based on good input from the users, provide features that will be used, and don't provide features that add significant cost but don't have major value to the agency.

Joint partnership, again, I see it as a beneficial project for both of us. We get to do some mighty impressive data in video. It also gives our agency our policy makers, and our county commission, the opportunity to see what we are going to ask them for in the near future. And it gives the manufacturer the feedback.

As I said, it enables us to see the future, this is what we hope that the 700 band will be providing for us when it becomes deployed. We would like anybody who has an interest in this technology, or this opportunity to come down to Pinelas County, Florida.

We do give tours periodically. Put together a group of people, we will give you an

opportunity to drive around in the vehicles and actually do hands-on.

Here is a list of some of the people that have either come, or registered to come. As you see, there is a pretty good number of public safety agencies that are interested in moving in this direction.

We have had federal agencies step forward to try this technology, to see if it would meet their needs. And private consultants. And we have others, manufacturers and people in the business that have come to evaluate it, and most of them provided very positive comments, and provided good suggestions on how we can test the system to new levels.

One item I didn't touch on was the fire applications. What we have is we have multiple CAD systems within our county. The sheriff uses one, fire uses one, and EMS uses one.

So when those vehicles that are installed in fire equipment, we load their applications and their needs, and their CAD system on the same terminal, and we let them access their hydrant map,

locations, weather, very important, video from an accident scene.

The lower left corner here is the status of equipment. This would be information that would be quite difficult, before, to have in use in an incident command out in the field. Now it could be pulled up on any car, any time.

And AVL and mapping, we are doing that open video window, showing location, units approaching, and the accident. That particular map right there shows property information, zoning, and it looks like it is pulling the property information out of the property appraiser's office. It gives the owner's name, and any of the hazards and things that are with it.

Quick summary, what we saw on that little video was a traffic stop that used the internet, used video conferencing, and it allowed conferencing between the data base and the officer to get a photo.

Community policing is very popular, very important to our agency. As a citizen approaches an officer and asks for information about crime in their

area, or make a report, that officer now has access to all the information he would if he was in the office.

He could generate a crime analysis report for a week, a month, a year, based on the address. And it would be deliverable to the vehicle so he can provide that citizen with an answer, as well as show photographs and others to the citizens, perhaps to identify a suspicious person.

Crime scene, we have a large amount of photos digitized and in our data base. Sometimes the technician who is processing the crime scene would like the opportunity to go back and review some pictures, refresh his memory, find out if there is any similarities between things that he has processed recently, and again, allows that officer in the vehicle to go right ahead and access those servers full of photographs, and crime scene documents in the field.

And the drug sting scenario, allowing you to observe a situation covertly, and then share that video of the users, both in the command arena, and the officers who may be standing by to do the arrest

later.

This would be very, very helpful, in knowing that you are stopping the right vehicle, and the right people, and not having to rely on a verbal description of the type of car, and the description of the people that could actually view the entire operation real time, in the field.

Summary, what we are seeing here is that it puts users in live situations, allows us to apply different scenarios to the equipment. Some come from our officers, some come from administration, some come off the technical side.

We are producing another videotape like the one you saw here, that was for federal users. But this one will be a full interoperability with police, fire, EMS, and possibly other users, and that should be available mid-December.

Next tour we are offering is filling up fast, it is December 6th. However, if you are interested in that, or another date, please contact myself or Mr. Tim Goodall, who is down in front here, and we can set you up for a visit.

We really encourage more people to come see this technology, and see how well it does work. And with that I have no more.

CHAIR WILHELM: Are there any questions from the audience?

(No response.)

CHAIR WILHELM: David, thank you very much.

I think it is interesting, David, that in the morning session we heard from people who are bemoaning the lack of videoconferencing on a wireless basis. And in the afternoon we hear reports on how standards are being developed for an actual cutting edge working system providing what those folks this morning said they needed, and couldn't obtain.

Our next speaker is Bob Lee. Robert E. Lee, Jr. is the program manager of the PSWN program, which has assisted the NCC's interoperabilty and implementation subcommittees in the development of proposed incident response system.

He is here to discuss the latest iteration of this system, and to discuss the steps necessary to

have the system adopted by public safety officials. Bob?

Let me explain why John is here. Normally in these meetings we have reports from all three subcommittees. And we have to cut that short in this meeting, because of time constraints. But the interoperabilty and technology committees did discuss encryption, John is going to discuss that, and he is also going to discuss the interoperabilty subcommittee's work on the incident response system.

MR. POWELL: My introduction for Bob is through the normal letter that we do in transmitting documents to the Steering Committee, and I will just briefly read this, because it does include two items. It is our letter to Chairman Wallman, and Michael.

It says: This letter serves to bring to the NCC Steering Committee for your action two activities of the subcommittee during this week's meetings. First, on November 15th the subcommittee revisited the issue of the most appropriate standard for voice encryption on interoperabilty channels in the 700 MHz band.

Section 90.553B of the Rules and Regulations currently identifies the project 25 data encryption standard, or DES protocol known as the encryption standard. After considerable discussion we are recommending that the technology subcommittee reconsider the standards issue.

It is the belief of this subcommittee, without dissent, that a more appropriate standard is the advanced encryption standard or AES. Furthermore, we recommend that the Steering Committee immediately notify the manufacturing committee that this issue is being reconsidered.

The second item we are bringing to the Steering Committee's attention is that Mr. Robert E. Lee, PSWN program manager, today will present recommendations of interoperabilty subcommittee working group II, regarding mandatory use of the incident command system, or ICS, nomenclature, structure, and communications command structure, plus use of plain language, and priority access protocols for incidents involving use of 700 MHz interoperabilty channels.

These recommendations and the background upon which they are based are detailed in document 58E and that was on the table at the back of the room, when you came in this morning.

The events of September 11th where the ICS played a critical role in managing one of the most complex public safety responses in our nation's history, highlight the need to quickly forward this recommendation to the Commission for its consideration.

We can have the best technologies available for deployment, but if operational protocols are not in place to appropriately use these channels, the technology is of little use.

ICS is the standardized operational protocol. It is in place within the majority of public safety first responder agencies across the United States.

It is the only possible choice for this product of our subcommittee. Robert?

MR. LEE: Thank you, John, and thank you Michael for placing me in what turns out to be the

position of greatest favor with a group like yourself, and that is the last speaker. And my dentist often places me in a similar position. They are very happy to see me at the end of the day.

Well, at any rate, good afternoon, my name is Robert Lee, and I'm the PSWN program manager for the Department of Justice. I've only been in this position about five months, and it has been a whirlwind learning experience to the intricacies of radio communications, and data transmission, and public safety. But I'm quite honored to be here and happy to be part of it.

We were tasked, in this case, to assist the operations standards working group with developing a white paper on the incident command system, and that is the product that you see in the back of the room, which we are forwarding today as a final recommendation for the NCC.

Our intention today is just to introduce the report to the Commission, not to explain in detail the real nature of the incident command system. You all know that there has been so much written on that

topic, that the system itself has existed for about 30 years, and has been refined, and taught to an increasing number of people over the course of those 30 years.

Just yesterday, before I came down here, I got a notice from the IACP of an upcoming critical incident management training session, and in there, of course, discussed the origins of key functions of the incident command system, and identify the federal regulations requiring its use.

So the incident command system is not something that is new to us in public safety, but it is something which now we need to embrace in a special way, as we consider the 700 MHz spectrum.

So I will provide a short explanation of the history that led us to today, and identify the basic attributes of the incident command system, and introduce this paper as a recommendation to the NCC.

The primary benefit of the incident command system, as we see it, is standard procedures. That is, we have a protocol to follow as we implement interoperabilty. There is immediate implementation,

you don't need to be formally schooled, necessarily, you don't need fancy equipment, you don't need software, and things like that.

You can set this up very quickly, very basically, and have it accomplish your job. Additionally we feel it has universal application, which means it is relevant to any situation, and since we are talking about all the public safety, we don't have to specialize explanations of this for the various sectors that usually follow in public safety.

The history of the paper is as follows. We had the initial draft last November, in Washington, D.C., first review in January, another review in March, where there were subtle changes made, and in June we finally crafted this as an actual submission to the NCC, and are formally bringing it forward today as a committee.

We certainly found that the ICS has certain values for the public safety community. It is simple, effective, flexible, and accessible. It is a very easy system to use and follow, once you embrace it as something valuable to public safety incidents.

These attributes make it an essential tool for public safety, and it has been recognized by agencies throughout the country as such. Fire services taught it in the National Fire Academy for many, many years. I mentioned the IACP mailing recently.

And since communications are an essential part of an effective response to any incident, we would recommend ICS as the standard to follow. So the operating standards working group, and the PSWN program, therefore, endorse the implementation of the recommendations to you as the components of ICS in the interoperabilty spectrum including its structure, nomenclature, language, and leadership structure.

At any rate, we thank you for the opportunity to allow us to introduce this concept to the NCC. We welcome the challenge, this is PSWN, we welcome the challenge of continuing to support NCC and public safety throughout the country, as we grow in so many different regards, and people of the United States deserve no less from us, than to work hard at solving these problems.

And we think that through things like ICS we will help protect them, and ourselves in the public safety community. So thank you for your time. If there are questions we would be happy to answer them now.

CHAIR WILHELM: Bob, I had one question that came up previously with Commission staff, and that is the use of plain language. And they weren't clear whether that meant non-encrypted communication, or avoidance of use of tactical codes.

MR. LEE: It is the latter, avoid jargon, because we know that that changes from place to place. I mean, here in the city I heard somebody refer to their communications van as a bus. Well, in New York City those who work it know a bus is an ambulance, right?

So, I mean, that is the kind of thing we are trying to avoid by the plain language.

CHAIR WILHELM: Well, now we've come to the time that we usually reserve for public comments, or public questions in the meeting. Seeing the usual suspects in the audience, I suspect there may be no

public comment. But let me open the microphone in case there is.

MR. SCHLIEMAN: John Powell asked me to put this letter on the record. This is to Kathleen Wallman and Michael Wilhelm, dated November 16th, from John Powell, interoperabilty subcommittee chair.

The final report of the public safety wireless advisory committee identified an immediate need, within five years, for 25 MHz of spectrum to meet critical interoperabilty and operational needs of local and state public safety agencies.

Poignantly we met today in New York City to hear testimony on communications interoperabilty problems during the largest terrorist act ever to target our country. Most horrendous in world history. These acts occurred on the fifth anniversary of the release of that final report.

The critical spectrum needed for appropriate and coordinated response to those incidents is still not available. From the view of the working public safety professional who is risking her or his life on a daily basis, responding to

emergences, we are no closer to realizing the use of the spectrum today than we were in 1996. It simply is not there.

The work of the National Coordination Committee continues to be pivotal in providing guidance to the Commission, manufacturers and users of this new spectrum. Its work is complete to the point that equipment for this new band will shortly be available.

However, the majority of spectrum for this new public safety band is still encumbered by television stations in the major metropolitan areas of the United States, with no guarantee of relief in the foreseeable future.

The time to clear the spectrum for public safety use is upon us. We are at war. Throughout the world our military has access to sufficient and usable spectrum for its critical missions, but today's war is more domestic than foreign. The vast majority of our domestic soldiers wear the uniforms of local, state, and federal emergency service personnel, and we do not have sufficient and usable spectrum for our critical

missions.

There is no way to count the lives lost at the Pentagon and World Trade Center on September 11th, and the countless other events that happen every day throughout this country due to the inability of public safety personnel to intercommunicate.

It is time for the Congress and Federal Communications Commission to put aside politics, monetary and other issues, that are blocking the immediate availability of the spectrum for public safety use. The lives of our citizens, and the emergency personnel sworn to protect them, must take precedence over other uses of this spectrum, including home shopping, and other commercial enterprises.

The interoperabilty subcommittee urges the NCC Steering Committee to immediately move the issue of spectrum availability to the top of its agenda, action agenda.

The time to act on this issue is now, because most other activities of the NCC will soon grind to a halt without the availability of 700 MHz spectrum. Sincerely, John S. Powell, Chairman.

CHAIR WILHELM: Thank you Bob, and thank you John, who has left, for a very well written request to the NCC.

For those of you who did not notice it on the agenda, I want to mention, again, that the NCC is grateful to the IXP Corporation, and to MOtorola, for furnishing the meeting space, and refreshments, over the past few days.

Our special thanks, very special thanks are due to Ted Dempsey for his help in organizing these meetings, and scheduling several of the fine officials who addressed here today.

Although all of us would like to believe that the World Trade Center and Pentagon attacks are to be the last terrorist assaults on our country, indulging in that belief would be perilous.

The work of the NCC has become more important since September 11th. Effective public safety communications systems, now more than ever, are going to be the literal lifeline to police, fire, EMS, and military professionals who safeguard our citizens.

With your help, the help of your local

officials, state legislators, and of Congress, the 700 MHz public safety band will add much needed strength to that lifeline.

And, finally, let me say that it is next to impossible to leave this meeting without the impression that the spirit of New York City, and its public safety professionals, is absolutely unbreakable.

Thank you for coming, and I hope to see you in Washington on January 31st, and February 1st of next year.

(Whereupon, at 2:58 p.m. the above-entitled matter was concluded.)